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ABSTRACT

The National Association for Girls and Women in Sport (NAGWS) put out this manual on aquatics, the first part of which contains a brief description of the goals, beliefs, and functions of the NAGWS; a list of standards in sports for girls and women; and a list of the members of the NAGWS Aquatics Committee. The second part contains articles on a variety of swimming-related themes, including lap-counters, training, water safety, competition judging, pool maintenance, instructor education, and teaching swimming to the mentally retarded. This part also includes book and film bibliographies. Part two contains standards for ratings in swimming and diving competitions and techniques for officiating swimming and diving events. Part three contains official rules for synchronized swimming, swimming, and diving for girls and women, as well as lists of swimming and diving records. (CD)

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NAGWS guide

National Association for Girls & Women in Sport

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Aquatics

SEPTEMBER 1975 – SEPTEMBER 1977

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NAGWS guide

Aquatics

SEPTEMBER 1975 – SEPTEMBER 1977

With Official Rules

Sue Pernice, Chairperson
NAGWS Sports Guides and
Official Rules Committee

Editor
Patricia Davis

NATIONAL ASSOCIATION FOR GIRLS
& WOMEN IN SPORT
American Alliance for Health,
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NATIONAL ASSOCIATION FOR GIRLS AND WOMEN IN SPORT

The National Association for Girls and Women in Sport is a nonprofit, educational organization designed to serve the needs and interests of administrators, teachers, leaders, and participants in sports programs for girls and women. It is one of seven associations of the American Alliance for Health, Physical Education, and Recreation.

PURPOSE

The purpose of the National Association for Girls and Women in Sport is to foster the development of sports programs for the enrichment of the life of the participant.

BELIEFS

The National Association for Girls and Women in Sport believes that:

Sports are an integral part of the culture in which we live.

Sports programs are a part of the total educational experience of the participant when conducted in educational institutions.

Opportunities for instruction and participation in sports appropriate to her skill level should be included in the experience of every girl.

Sports skills and sports participation are valuable social and recreational tools which may be used to enrich the lives of women in our society.

Competition and cooperation may be demonstrated in all sports programs, although the type and intensity of the competition and cooperation will vary with the degree or level of skill of the participants.

An understanding of the relationship between competition and cooperation and the utilization of both within the accepted framework of our society is one of the desirable outcomes of sports participation.

Physical activity is important in the maintenance of the general health of the participant.

Participation in sports contributes to the development of self-confidence and to the establishment of desirable interpersonal relationships.

FUNCTIONS

The National Association for Girls and Women in Sport promotes desirable sports programs through:

1. Formulating and publicizing guiding principles and standards for the administrator, leader, official, and player.
2. Publishing and interpreting rules governing sports for girls and women.
3. Providing the means for training, evaluating, and rating officials.
4. Disseminating information on the conduct of girls and women's sports.
5. Stimulating, evaluating, and disseminating research in the field of girls and women's sports.
6. Cooperating with allied groups interested in girls and women's sports in order to formulate policies and rules that affect the conduct of women's sports.
7. Providing opportunities for the development of leadership among girls and women for the conduct of their sports programs.

SPORTS GUIDES AND OFFICIAL RULES COMMITTEE
INTEREST INDICATOR

The SGOR Committee is endeavoring to broaden its base of personnel and to strengthen its services to *Guide* readers. The purpose of this form is to offer readers an opportunity to join us in meeting this need. Please complete this form and send it to the SGOR Associate Chairman-elect, Ruth Gunden, Goshen College, Goshen, Indiana 46526.

Name_____

Professional Address_____

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1. Check the Sport Committee(s) which would be of interest to you:

___ Aquatics	___ Field Hockey	___ Softball
___ Archery	___ Flag football	___ Speedball
___ Badminton	___ Golf	___ Squash
___ Basketball	___ Gymnastics	___ Tennis
___ Bowling	___ Lacrosse	___ Track and Field
___ Fencing	___ Soccer	___ Volleyball

2. Would you like to serve as a member of a Sports Guide Committee of your interest?* _____Yes _____No
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5. Are there others whom you would recommend for consideration as possible committee members or authors? Please indicate below. (Use additional paper, if necessary.)

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City_____ State_____ Zip Code_____

Sports Committee Member ☐ Prospective Author ☐ (Check one)

*You may serve on only one Sport Guide Committee at a time.

STANDARDS IN SPORTS FOR GIRLS AND WOMEN

Standards in sports activities for girls and women should be based upon the following:

1. Sports activities for girls and women should be taught, coached, and officiated by qualified women whenever and wherever possible.
2. Programs should provide every girl with a wide variety of activities.
3. The results of competition should be judged in terms of *benefits to the participants* rather than by the winning of championships or the athletic or commercial advantage to schools or organizations.

Health and Safety Standards for Players

Careful supervision of the health of all players must be provided by –

1. An examination by a qualified physician
2. Written permission by a qualified physician after serious illness or injury
3. Removal of players when they are injured or overfatigued or show signs of emotional instability
4. A healthful, safe, and sanitary environment for sports activity
5. Limitation of competition to a geographical area which will permit players to return at reasonable hours; provision of safe transportation.

General Policies

1. Select the members of all teams so that they play against those of approximately the same ability and maturity.
2. Arrange the schedule of games and practices so as not to place demands on the team or player which would jeopardize the educational objectives of the comprehensive sports program.
3. Discourage any girl from practicing with, or playing with, a team for more than one group while competing in that sport during the same sport season.
4. Promote social events in connection with all forms of competition.

SOURCES OF INFORMATION AND SERVICE

All requests for information about services should be addressed to: Executive Secretary, National Association for Girls and Women in Sport (NAGWS), AAHPER, 1201 - 16th Street, N.W., Washington, D.C. 20036.

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*Current *Guide* material was prepared by 1973-1975 committee; the next *Guide* will be prepared by the 1975-77 committee.

Lived Moments in Aquatics

SEYMOUR KLEINMAN

Seymour Kleinman received his B.S. and M.A. degrees from Brooklyn College, Brooklyn, New York, and Ph.D. degree from The Ohio State University, Columbus. He is professor and chairperson of graduate studies, School of Health, Physical Education, and Recreation, The Ohio State University, and a former varsity swimmer at Brooklyn College.

This article presents a series of descriptions of experiences which are not in the least extraordinary or unusual. They are excerpts from papers written by graduate students in my course, "Human Movement Theory." The only thing I find unusual about them is that they reflect experiences in the sport realm which we fail to communicate. For reasons which are complex in both the psychological and cultural sense we just do not feel comfortable talking about these things. Yet, after reports about the sport experience are written up in a purely descriptive manner, many of us admit that the nature of our involvement is revealed in greater depth.

I have become convinced that experiential description of this kind can be an exercise in revelation. What more may one ask? What more is there?

Lifesaving

My hands and arms go out horizontally and my legs are one in front of the other. The cold water is oozing over all my body except my head. My eyes seem glued to the huge, overwhelming figure that is so far away but so near. He is thrashing vigorously just as I expected. I must be ready for anything. I cannot let my eyes leave him, but somehow these eyes seem to be making my arms and legs go. I cannot go back without him.

The closer I get the more he looks as if he is all arms. Suddenly, those arms engulf me. My chin, I have to tuck it. Oh, do not go too fast! I hear myself gasp for that last bite of air. What powerful muscles pressing so hard! I must take him down under. Now, I can feel us slipping as one into the mysterious depths of the water. I see my little hand come up and force his cheek to the side causing his head and point of focus to change. His elbow feels lumpy as I clutch it. Before he can turn his head, I am sneaking out of his powerful grip in one continuous pressing movement. Now I see the back side of those shoulders, and I twist his arm into a hammerlock position.

Carolyn McGinnis

Skiing

Suddenly I was up, really up, following that wake, skimming over the surface. It was the right thing. I was at ease. I knew I could do what I wanted. It was incredible! I had accomplished. I wanted to shout, "Hey, look at me!" There was a huge smile on my face. The ski was doing what was necessary. Sudden rush, cut across, change of speed, lazy cut back. The spray was silver, and I could catch it on my hand; where it touched my body, it formed drops. The colors kept changing. I felt ten feet tall, straight, immensely poised and alert. This was life. The sun felt warm. I heard nothing but the sliding rush of water. My whole being was content - almost as if the whole world had been pushed aside. My moment of triumph? If so, I wanted to keep it. I knew just then, that it would never be quite the same .... For the moment, I was content to accept and continue ...

Catherine Brown

Swimming Laps

As I skim along the top of the water I am somehow aware of my aloneness, but I am not lonely. I enjoy this solitude. My thoughts are many – I wonder how my friend feels, and what she is thinking. I think about going home and wonder what's for dinner. Many, many thoughts are passing through my mind. Some I dwell upon, others are only fleeting. Particularly, I wonder why I devote this time to swimming laps. It really isn't much fun and the opportunities for competition are not great. Still it compels me. My whole being seems to be concentrated in my floating head propelled forward thinking, thinking, not disconnected but somehow unaware of the mechanical performance of my body. Occasionally, I am brought back to reality when, getting off the beaten track, my arm touches the side of the pool, and I must straighten my course. So engrossed am I with my thoughts that now and then the tile gutter looms up suddenly, and I make my turn realizing that lap was quicker than most. Time varies according to my thoughts - it is nothing and again it is an eternity.

Mary Ann McCualsky

An Underwater Swim

I was in control of the medium now. It could not lift or slow me as long as my arms and legs kept moving. A pricking in my ears and a dull throb in my head gradually became more intense as I pulled forward and down.

My lungs tightened, and there was a clutching at my throat. I increased the pace, determined to reach the end of the pool. I could see it ahead as my legs grew heavy and my arms continued to force the water back.

The water was no longer a gentle warm resting place. It had become a hard confining barrier through which I had to break. It was now an opponent, resisting my effort and persistently drawing me back every moment that my arms and legs were not forcefully pushing against it.

The waivering white wall ahead was now my entire focus. It was becoming larger and larger, but a stiffness was gathering in my neck, progressing down my spine, urging me upward. No! The end is too close; I can't quit now!

Barbara Shinn

Competitive Swimming

A few familiar yells come from the stands which make me feel a bit more confident, but only for a moment. The block seems higher than usual. My arms are shaking a little – part nervousness and part my own reaction. I'll say a few prayers that the best person will be I, as long as I try the whole distance. "Deb, this is a short 50 meter so take one breath down, pulling hard all the way; about two breaths back pulling hard and whipping that kick." "DON'T SAVE!" The starter is giving the command, "Swimmers take your mark ... stand up ... " Splash. Aggravating. Ridiculous. Can't they hold the stance at such a moment? What a relief for a second. Maybe this time we can get on with it! "Swimmers take your mark ... Bang!" "Come on Deb, have a good breath, now use it. PULL HARD! Go faster!" Where is everyone? ... Here is the wall now push off hard and pull up hard. There they are. "Debby, get going." Go-o-o! My face is going to burst from holding my breath. It is fairly smooth riding, but just keep on going. There is the end! About 10 yards. I've got to make it on this breath. Now or never! Hurry! My arms don't seem to be a part of my body, but I can feel them hanging on. Keep going – don't look now – just move. Jam those two hands into the wall. THERE! Finished at last!

Deborah L. Woodside

Diving

Everything depends on the approach. No slip. Great! For a brief moment I am free of the board – for that instant I am suspended in space. Suddenly, and with force, I am returned to the board. Bend

and board down! Stay with it; break it! Ride the board; press the board.

I'm up and reaching for that elusive spot high into space and free above the water. Get up! I know that I can never reach the spot, but I must try. Higher. Higher. Follow the fingers. Get up! Now cut; cut for the water.

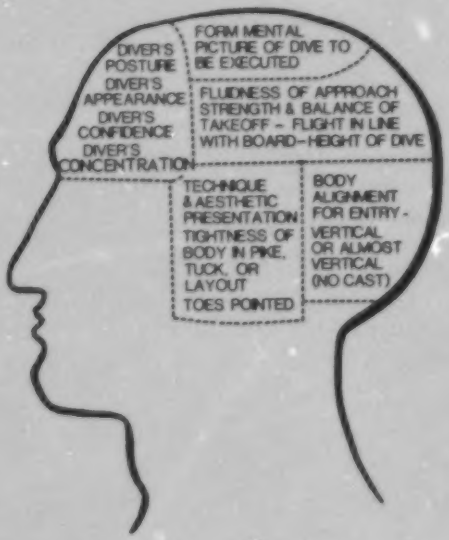
I am a single focal point located equal distance between the hips and deep within the stomach. The ball bearing, with lightning speed, shifts from the fingertips to the center of my body and around this metallic object I am spinning. Spin around the hips; spin like a top. Pull harder! Become smaller. Keep the eyes open. I'm lost! Where am I? Look for the water; no, look for the flag at the end of the pool. I'm falling. Where is the water? There's the flag. Release – uncoil, stretch – reach out! Perhaps I can cut a hole through the water without causing a splash. Stretch!

William C. Lewis

What Goes Through a Diving Judge's Head?

BETTY K. PERKINS

Betty Perkins, five times coach of the United States Age-Group World Diving Team to Europe, attended Cortland State Teachers College and received her teaching certification in physical education from the United States Air Force. She judged the National Championships for the Association of Intercollegiate Athletics for Women in 1972 and 1974. She coaches high school divers, swim club divers, AAU age-group, and senior, junior Olympic and college competitors at Perkins Swim Club, Inc., Rochester, New York.


DIVER'S POSTURE
DIVER'S APPEARANCE
DIVER'S CONFIDENCE
DIVER'S CONCENTRATION
FORM MENTAL PICTURE OF DIVE TO BE EXECUTED
FLUIDNESS OF APPROACH STRENGTH & BALANCE OF TAKEOFF – FLIGHT IN LINE WITH BOARD–HEIGHT OF DIVE
TECHNIQUE & AESTHETIC PRESENTATION
TIGHTNESS OF BODY IN PIKE, TUCK, OR LAYOUT
TOES POINTED
BODY ALIGNMENT FOR ENTRY - VERTICAL OR ALMOST VERTICAL (NO CAST)

Do's and Dont's of Judging

Do:	Don't:
Know the rules.	Pre-judge.
Attend meets, practice, study judging.	Judge too conservatively – use 0 thru 10.
Adhere to the rules and know degree of difficulties, if refereeing.	Be influenced by names or spectator applause.
Attend clinics.	Be afraid to call it as you see it.
Be knowledgeable about new dives, styles and techniques.	
Be open-minded – you are evaluating movement.	
Have confidence in your ability.	
Be consistent.	
Be honest.	

An Inexpensive Lap-Counter for Fitness Swim Programs

MILDRED J. LITTLE

Mildred Little is an associate professor of health and physical education at Texas A&M University, College Station. She received her B.S., M.Ed. and Ed.D. degrees from the University of Texas at Austin, has taught swimming in summer camp programs and at the college level, and is an American Red Cross water safety instructor-trainer.

Swimming, as a fitness activity, has reached an all-time high in popularity. Men and women, as well as boys and girls, have taken to the lanes in earnest and are experiencing many physical benefits along with sheer enjoyment as they accumulate mile after mile along the water roadway. Three programs that have given incentive to this fitness emphasis are the Swim and Stay Fit program, the Presidential Sports Award program, and the Aerobics program.

Fitness Swim Programs

The American Red Cross launched the Swim and Stay Fit program in 1961 as a contribution to President Kennedy's nation-wide physical fitness campaign. Certificates are awarded for 10, 20, 30, 40 and 50 miles. These distances are accumulative and must be made in quarter-mile stages. Many schools, colleges and clubs also chart the accumulative mileage of all their swimmers to reach across the country or around the world.

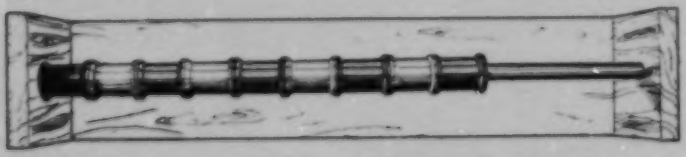
The Presidential Sports Award program is a recent innovation of the President's Council on Physical Fitness and Sports. Swimming is but one of 30 sports encompassed in the award program. To qualify for the swimming award, one must swim a minimum of 25 miles within a four-month period. No more than three-quarters of a mile in any one day may be credited to the total.

Kenneth Cooper popularized the Aerobics concept of exercise with the publication of his first book by that title in 1968. Swimming is one of several aerobic activities whereby points are earned on the basis of time required to complete a specific distance. According to Cooper, women should earn 24 aerobic points each week and men should earn at least 30 points a week in order to maintain an adequate fitness level.

Lap-Counter

Each of these three fitness swim programs must monitor the distance covered. Obviously, this task merely involves knowing the length of the pool, determining mathematically how many lengths equal a quarter of a mile, a half mile, etc. and keeping track of how many lengths are covered. Counting laps can be a chore for swimmers of any ability level, but it is particularly burdensome for the more accomplished swimmer who swims many laps in one swim session and finds it more relaxing to think of things other than counting laps while swimming.

An inexpensive gadget can be constructed easily to count laps accurately and effortlessly. Actually, the lap-counter should be constructed with a specific pool in mind since consideration needs to be given to whether it will be placed on the deck at the edge of the pool or in a gutter that may be lower than the deck. The basic principle is to place spools or large wooden beads on either a wooden dowel or a wire attached to a holder so that one counter at a time can be pushed along the rod to keep track of one round trip. For instance, if the lap-counter is to be used in a pool 25 yards long, nine spools should be used in its construction. When a swimmer has made 18 laps of the pool, or 9 round-trips, all nine spools will have been moved indicating that 450 yards or ¼ of a mile has been covered. If a ½-mile workout is desired, the spools are merely moved back, one at a time, in the opposite direction as the laps continue.



The holder may be of various sizes, depending on available materials. A suggested size for the two sides that support the wooden dowel is 3" by 3". The overall length should allow room for the desired number of spools plus a vacant spot equal to the length of three or four spools so that when each is propelled quickly along the rod it will not bounce back. For nine average-size spools, the suggested overall length of the holder is 14-15 inches. The lap-counter will be quite stable if the back of the holder is made

from ½-inch wood and if screws are used to attach the sides. Several coats of paint will add to its life and make it easy to locate while executing the turn. Alternate spools might be painted in contrasting colors.

Whatever type of fitness swim program is in operation, counting laps becomes less burdensome for swimmers by equipping each lane with a simple-to-make, inexpensive lap-counter.

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The Science of Training for Swimming

ROBERT L. BARTELS

Robert Bartels is a professor of physical education at The Ohio State University, Columbus, where he received his B.S., M.A. and Ph.D. degrees. He is a past president of the College Swimming Coaches Association, 1971-1973, and a recipient of the Distinguished Coach Award from the College Swimming Coaches Association in 1974.

In the 25 or more years since Ragnhild Hveger was the outstanding female name found on the pages of the swimming record books, competitive swimming has undergone a dramatic metamorphosis. Each year the sports pages have proclaimed the tremendous progress in swimming times to nearly disbelieving fans. For example, the world record for women for the 100-yard freestyle in 1945 was held by Hveger at 59.4 seconds. Today, performances below 53 seconds are commonplace in national competition, and any community where swimming is an important activity for girls is likely to have several youngsters capable of performance below the 1945 standard. The world record for 440 yards in the early 1940s for men was 4:38.5 held by the all-time great Hawaiian swimmer, Bill Smith. The current 400-meter record for women established in a recent invitational meet in California is a phenomenal 4:17 plus, 20 seconds faster than any man had ever achieved in 1945.

The reasons for this progress are of great interest. Researchers have determined that swimmers are more muscular and have less fat than their predecessors. They are more mature and more physically fit than average children in their age group. Many writers have pointed out that there are many more competitive swimmers today than there were even a few years ago; some of their estimates are well in excess of a million youngsters in various stages of training for their sport. However, the answer is not in numbers. Most changes in competitive swimming have occurred for other reasons.

Swimming as a sport has undergone some subtle, year-by-year changes since the days of Gertrude Ederle and John Weissmuller. Swimmers of national class in that era seldom swam more than a mile per day; today, there are many programs across the country in which youngsters as young as 12 swim as much as 12,000 to 15,000 meters per day on a six-day training week. Today, we even hear of

age-group programs in which youngsters go in excess of 20,000 meters per day in year-round training.

In addition to these changes, there are on today's competitive scene more carefully prepared, knowledgeable coaches than in previous years. Thus, in addition to greatly increased numbers of swimmers, there are many more well-taught youngsters with well developed skills.

Methods of Training

That we have become more knowledgeable about training methods cannot be denied. We have progressed from the casual, general distance training of Weissmuller's era to the highly structured interval training programs of today. Interval training, which had its beginning in the track world, is in its simplest form alternating periods of work and rest. First of all, interval training offers precise control of the amount of stress afforded by the workout. As a result of this control, it is much easier for the coach to assure the physiological overload which, the scientist tells him, is essential for improvement in the swimmer's capacity to do work. Second, it is possible in doing intermittent work to perform much greater volumes of heavy work without accumulation of lactic acid in the working muscles which would force the athlete to slow down or stop (without intervening rest periods).

Perhaps the outstanding contribution to our understanding of proper training techniques has been the concept of specificity of training. We have learned that it is unproductive to train for the sprint events by doing solely increasing amounts of comparatively slow swimming. Conversely, it would be impossible to train for the 1,500-meter swim by doing solely, short, all-out sprints.

Energetics of Training

The scientific reasons for having to train specifically for an event lie in the sources of energy which pay the energy cost of the event. Understanding the basics of energetics is not difficult and begins with the fact that the energy for all muscular work comes from the breakdown of adenosine tri-phosphate (ATP). This may be expressed in the equation ATP ⇌ ADP + Pi + energy. (ADP is adenosine di-phosphate and Pi is inorganic phosphorus.)

ATP in the working muscle is not unlimited, however, and must be replenished. This is done by the breakdown of another energy rich compound, phosphocreatine, with the subsequent release of energy as expressed by the equation phosopho-creatine ⇌ creatine + Pi + energy. The energy released is used to re-synthesize ATP. The two reactions ATP ⇌ ADP + Pi + energy and phospho-creatine ⇌

creatine + Pi + energy are reversible and together make up an anaerobic, no oxygen involved, energy system called the ATP-PC system. It is this system which pays the cost of short, explosive events of a few seconds duration and the majority of the cost of the 50-yard freestyle. As is true with ATP, however, the supply of phosphocreatine in the muscle is limited. It can be re-synthesized only by the breakdown of more ATP.

There must, then, be another source of energy to re-synthesize ATP. This source is another anaerobic energy system known as glycolysis. Glycolysis is a series of complex chemical reactions in which glycogen, a sugar, is broken down in steps, with a release of energy, to an end product – pyruvic acid. If the energy cost of the work being done is great, pyruvic acid is further changed to become lactic acid. Thus, this system is referred to as the lactic acid system. All of these reactions, too, are reversible, and the breakdown of a molecule of glycogen to lactic acid, all without the involvement or use of oxygen, yields two ATP molecules. This energy system primarily pays the cost of the 100- and 200-yard events in swimming. It should be noted, however, that the accumulation of increasing amounts of lactic acid parallels fatigue and, when a high level of lactic acid has been reached in the tissues, the swimmer will reach exhaustion.

If, however, the body's energy requirements are comparatively low as when at rest or during slower swimming, pyruvic acid, in the presence of enough oxygen, rather than being converted to lactic acid enters another energy system. This involves the use of oxygen and is thus an aerobic system known as Krebs' cycle. In this energy rich cycle one molecule of pyruvic acid undergoes a number of changes, and each complete turn of the cycle yields 36 ATPs. In this cycle O_2 is used and CO_2 and H_2O are produced.

Although the aerobic system provides the energy to sustain life at rest and during light work and is the most efficient system, it has limitations. It can produce only so much energy per unit of time, but not enough to satisfy the demands of extremely heavy work as in sprint events. If the energy demand exceeds the capacity of the aerobic system, the anaerobic systems pick up the slack, and the pyruvic acid which cannot be shunted in Krebs' cycle becomes lactic acid. The aerobic system is adequate to furnish about half of the cost of a 400-meter swim and 85 percent of the cost of the 1,500 meter. It supplies an even greater portion of the energy in longer swim events such as a four-mile distance because of the comparatively slower rates at which such events are swum.

The capacities of these energy systems (the amount of energy they can supply) can be improved by doing particular kinds of training.

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Nature of Specific Training Programs

It is not the purpose of this article to discuss interval training, as several fine publications include this information. However, a word about specific programs should be useful.

All successful training programs have some common characteristics:

1. They begin within the capacity of the individual and are only moderately taxing at first.
2. They are progressive. They become more difficult as the individual adapts; they must include hard work.
3. They produce fatigue from which an individual recovers within a few hours and not exhaustion which lingers from day to day.
4. The average rate of swimming is steadily faster across a training season in all successful programs, leading to training which is progressively closer to competitive pace.

The amount of stress afforded by a particular training routine is related to the heart rate in beats per minute as determined immediately following a swim. The following rules might be of help in training for specific events:

1. Train to increase the individual's ability to sprint and perhaps to utilize the ATP-PC system in the most efficient way by including in the training regimen some short, explosive swims. An example of a portion of such a workout might be:

6X50 (all-out) on 2-minute sendoff
6X25 (all-out) on 1-minute sendoff
6X25 (all-out) on 1.5-minute sendoff

Heart rates per minute estimated from a six-second period immediately following exercise should be at least 180, approaching 190 in young children. The rest period between sets should be long enough to allow the heart to drop to at least 120. The recovery period between swims should be long enough to allow the swimmer to attempt the next swim all-out. Sprinters should probably do heavy sprint training three days per week.

2. Train to increase the capacity of the lactic acid system. The key again is heavy work. However, the rest period should be always at least 30 seconds in length. Exercise heart rates should again exceed 180, but the rest period between swims should be long enough to allow the heart rate to drop to 140. The rest period between sets should be long enough to allow the heart rate to drop to 120 beats per minute.

3. Train to increase the capacity of the aerobic system. Exercise heart rates should be low enough to allow the swimmer to do the work without lactic acid accumulation and thus exhaustion. Heart rates will usually not exceed 160-170 beats per minute and rest

periods may be less than 30 seconds, provided that they are long enough to allow the heart rate to drop to 120 beats per minute between swims. Success in the aerobic events requires a great amount of training during a training year. Most successful programs for people in these events today include at least 6,000-7,500 yards per day in as many as three workouts.

Specific training should lead to greater gains per unit of training time and to the enjoyment derived from the sport. In an era when many hours each day may be spent in training, in some instances to the exclusion of other activities, it is necessary for every coach to produce as efficient a training program as possible.

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Relating to Reality with Water Safety

MARYL HURLEY

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For the blind, deaf and autistic, the world sometimes is a curious place which offers little opportunity to develop leisure skills in the community. A water safety program can offer a stimulating environment in which to experience a new medium, to discover how one's body moves in the water and to learn how to be water safe.

Characteristics

A person need only have a 20/200 vision (that is, see at 20 feet that which is usually seen at 200 feet) to be legally blind (5). Thus, the term "blind" encompasses those with partial sight. Like the deaf, a blind individual becomes dependent upon the remaining senses. When the blind are participating in a water safety program, emphasis should be placed on feeling and hearing; with the deaf, emphasis is on feeling and seeing.

The blind or deaf individual's psychological attitude may be either that the disability is a handicap or that it is merely an inconvenience (3). Personal acceptance, a growth of a positive self-concept and a feeling of individuality are offshoots of participation in a water safety program (3). It is important to remember that the blind and deaf are normal individuals.

Formerly, the autistic individual was thought to be mentally retarded. Not until 1943 was a differentiation made between the two disabilities by Dr. Leo Kanner of Johns Hopkins University (1). An autistic person shows no speech patterns and will not look another person in the eye. Verbal instructions are not listened to, and this can be a hindrance in any program. There is no relation to, or interaction with, another person and no exhibition of any expressiveness or affection (4). Despite this, the autistic child, teenager or adult can benefit from a water safety program and become a competent swimmer.

Safety Features

In a well-organized program, many safety features will be evident. For example, the air and water temperatures should be raised to the 80° to 85° F range to avoid chilling and fatigue (2).

Sound localization in the form of music or a metronome always placed in one specific area can be used for the blind to differentiate between the deep and shallow water areas. Color recognition can be utilized in programs for the deaf – that is, red for deep and green for shallow water.

An emergency system should be established. The blind and autistic can be taught that one whistle blast means, "stay where you are." This is especially useful in case of an aquatic emergency or power failure. With the deaf, a flashing of the lighting system or of a flashlight can designate specific signals, and a red light can denote a complete evacuation of the water (2).

Use of the buddy system is a must to be waived only in the case of the totally blind. A class ratio should be established before the program is begun. The American National Easter Seal Society recommends that for waterfronts one staff person be assigned to every dependent camper and one staff person to every few campers capable of swimming (6). Because of the lack of personal inter-identification, a one-to-one ratio is recommended for the autistic person starting the program. The blind and deaf are capable of working in small groups with one instructor.

It should be remembered that the autistic personality has an intense resistance to change and to anything new (7). Therefore, the instructor and the routine must be kept the same until the individual is able to deal with something that differs from the regular flow.

An important but sometimes neglected aspect of a water safety program is the medical examination. Every individual should have a medical form attesting to his ability to participate in a water safety program. The medical form provides specific knowledge of each person detailing his medical problems, movements to be avoided and his duration of water time.

Teaching Principles

Leaders and volunteers in a water safety program must be patient in helping others overcome the frustration of learning a new skill. They must have enthusiasm that will encourage others to try one more time. They must be flexible to permit changes in presentation and expectation. Above all else, they must have interest in other people if they wish to provide a sense of accomplishment and understanding at each success or failure. The lesson or water session should be conducted at a slow, steady pace in a relaxed atmosphere as free from tensions and anxiety-creating situations as possible.

Through a water safety program, blind participants are given the opportunity to develop their independence to the fullest of their capabilities. Yet the program must always consider the safety of those in the water. With deaf children or adults, the degree of independence can be curtailed somewhat until the skill level is sufficient to permit a free use of water space.

Autistic individuals tend to learn more in a situation designed for fun and relaxation than in a structured, educational setting (7). This should be considered when working in any water safety program, as it is easier to learn in an enjoyable fun-filled moment than in a regimented schedule.

Demonstration of a body movement in the water is an essential factor in a water safety program. For the blind, there can be a problem with distinguishing movement in the water. They need to touch to discover for themselves exactly what is being performed. Like the deaf and autistic, the instructor can move the beginner's body through the desired movement, providing clear explanations in brief, simple terms through the motion. Autistic individuals experience difficulty in copying skilled movements which are made by others, hence, the reason for "patterning."

A definite point of observation should be emphasized for the deaf watching a demonstration, but this should be done so that no feelings of tension or anxiety are created as they result in muscle tension, making it difficult to relax in the water. Remember that the fun idea should be kept in teaching the fundamentals.

Every water experience should include a period of free time or play. For the blind and deaf, this is the fun aspect of water activity, where they can learn to relax, to move, to enjoy the water through games of their own or of another's devising. In this instance, the teaching-learning dichotomy is not readily evident. The autistic possess an inability to play imaginatively with objects, toys or people and, therefore, must learn to play through experience (7). In one program for the autistic, the participants have progressed to the point where many are no longer working on a one-to-one basis, but in small groups in deep water (7).

With any water safety program, there is the question of what kind of award should be issued, if any at all. The Canadian Red Cross Society Water Safety Service has just begun a one-year pilot project with Ontario, British Columbia and Quebec Divisions. The program is comprised of five levels and is open to anyone with any disability. Successful candidates receive a crest and certification card, while unsuccessful students are given a progress card.

Introduction of Aquatic Skills

The objective of a water safety program is to make each individual aware of his body in the water and how to help himself in

the event of an emergency. To this end, floating skills, changing direction and surface survival skills, such as drownproofing, treading water, floating or swimming in place should be taught as soon as possible.

The blind will experience a problem with body orientation in the water. Such different movement patterns as running, hopping, jumping and games incorporating body-position changes in the water can be used to overcome this difficulty.

Hearing-impaired students do not utilize their lungs in the same way as hearing individuals because of the necessity for controlling the air required for speech. These pupils therefore will need extra teaching to gain breath control in the water (2). Words used to describe a body action in the water must be chosen carefully so that the students are not being misled. "Stretch out" should be used instead of "float," and the "treading water" action can be described as "climbing stairs." Instructions should be related to an action that is already known.

Before using floating aids such as inflatable arm "muscles" and styrofoam bubbles, one must first consider whether they will be a hindrance rather than an assistance. Current thought is that the blind progress faster without their use (2).

In the first lesson, deaf students must be taught the importance of keeping their eyes open at all times. With no hearing available, sight will alert them to any dangerous situation.

Water safety knowledge must not be forgotten. An exposure to all elements – that is, reaching assists, artificial respiration and the theoretical knowledge regarding ice and boat safety, pool and beach safety and self-rescue – is essential. The blind can be taught water safety knowledge via a concept approach both orally and through experiencing practical situations. With the deaf, words and ideas can be expressed orally; concepts can be introduced visually; ideas can be introduced by finger spelling and, again, experience is a must. The autistic learn best through experience and exposure to concepts of water safety knowledge.

Summary

A water safety program offers opportunities for group activities and social experiences. Flexibility permits the program to be tailored to the needs of individual candidates who will develop in personal growth and maturity.

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For Assisting Only!

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Teaching Lifesaving Skills to the Mentally Retarded

Today, much emphasis is placed by trained personnel on instructing students in elementary forms of rescue as well as on personal safety around pools, beaches and lakes. Are all students or just the so-called "normals" being taught these two areas of safety? Certainly students who are about 14 to 16 years old and classified as slow learners or educable mentally retarded would have the skill, strength and mental understanding necessary to learn the elementary forms of livesaving.

Minimal swimming skill is one of the most important guides to a student's readiness for learning lifesaving skills. Some may have attained the swimming skills by 8 to 10 years of age, and most by 14 to 16. Because of this training, someday they may save someone else's life as well as their own.

Mentally retarded students are being reached through physical activities, including swimming, and it is time to investigate the possibilities of developing the lifesaving abilities of these students. Because of the wide range of individual mental and skill levels of achievement, the projected outcomes will vary with each person. All mentally retarded students, however, should be able to verbalize the importance of lifesaving: what it is; what it is they can do to help; and how it is done in order not to endanger their lives. They should:

1. Be unafraid of the water.
2. Be able to take care of themselves in the water which gives some self-confidence and an awareness of the dangers of water.
3. Have good control of their bodies on land as well as in water.

Suggested Personal and Lifesaving Skills

Following is a suggested list of personal safety and lifesaving skills these mentally retarded students could handle with confidence:

1. Personal Safety
   - Prone float
   - Back float
   - Survival float
   - Stroke on back (elementary back/back crawl)

Stroke on front (crawl/ trudgen)
Bobbing
Treading Water
Disrobing

2. Elementary Forms of Rescue (used for persons in trouble near the shore)

From land
- Reach and grab a person near shore
- Extension of body parts
  - Foot
  - Hand
- Extension of objects
  - Pole
  - Towel
  - Board
- Throw
  - Ring buoy
  - Kickboard

In water
- Extension of objects
  - Kickboard
  - Board
  - Pole
- Push objects out
  - Board
  - Float

Personal Safety

If a swimmer can relax and back float to rest when he gets tired, he will not experience panic in most cases. By comparing relaxing and floating on the back to the floppiness of a rag doll and to filling the lungs with air like a balloon, children can more clearly conceptualize the skill sequence. Some may not be able to float motionless, so minimium use of arms and legs should be encouraged.

The skill of survival floating combined with shallow water bobbing would be effective for personal survival, but it can be frightening to one who does not like to put his face in the water for a period of time. This fear can be minimized by teaching the student to play statues in shallow water, by working to get him into a T or X position with his face in the water and getting him to use his arms to press down on the water as he lifts his chin to breathe. After confidence has been gained in shallow water, he should practice survival floating in the deep water with the addition of a scissor kick or several flutter kicks when he lifts his chin for air.

Keeping the eyes open is of great importance to personal safety as well as to lifesaving. Open eyes help the individual to orient himself in the water and to see where he is playing an object for a person in trouble to grab. Keeping the eyes open also helps in giving better balance and providing security and comfort.

Main ideas to help minimize fear are:
1. Keep eyes open.
2. Relax.
3. Keep breathing rhythmically.

4. Do not take in too much air.
5. Exhale underwater slowly.
6. When face is out of water, keep chin up.

Elementary Forms of Rescue

Key Pointers. Key pointers to instill in the mentally retarded student who is working with elementary forms of rescue are:

1. Yell for help and/or send someone else for help.
2. Keep yourself low toward the ground or deck.
3. Keep your weight back away from the person in trouble.
4. Lean away from the person in trouble as you extend part of your body or an object.
5. Keep watching the person in trouble.
6. Move steadily and slowly in pulling the person to safety; never jerk him in.
7. Never swim after a person in trouble.

Methodology. Methods used in teaching lifesaving skills will vary with the individual. Repetition of the task is important in teaching the mentally retarded. Demonstrations must be repeated frequently. Manual manipulation also will be of value. If the students recite related rhymes as they are performing the skills, mental understanding as well as physical accomplishment of the skill may occur sooner. Individualized instruction or a very small group of two or three students is desirable.

Lifesaving Verses. In teaching lifesaving skills, verses can serve as good communication tools. They make it easier for students to learn the material. Some examples of skills in verse form are:

Extending a body part – the leg:

I see my friend close to the side of the pool.
Somehow he is reaching for me
But cannot touch.
Quickly I flatten out on my stomach
And with my hands I hold onto side of pool
Extending my leg as far as I can
So my friend can grab my foot.
I bend my knee slowly now
So he can reach the side.

Extending a pole to a victim:

To extend a pole to someone in trouble
I stand on the side of the pool
One foot forward – one foot back – knees a little
bent to keep me low.
With pole in hand I reach out

Placing the other end of the pole underwater to
touch my friend's stomach
So he can reach for the pole.
I lean back – knees still bent
And slowly pull on the pole hand-over-hand
Like climbing a rope on the fireman's pole
Till my friend is safe at the side.

Although mentally retarded teenagers probably never will be certified in lifesaving, there is still much they can do to be more aware of personal safety as well as to assist someone in need without endangering their own lives.

So let's give them this knowledge
Let's give them the training
Let's give them the responsibility
Let's make them safe too!

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Evaluation of the Lifesaving Carries

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What is a good lifesaving carry? How can the carries be evaluated? What kind of performance is required to merit the awarding of a lifesaving certificate to the swimmer? To find answers to these questions, an investigation was conducted using high school and college students as subjects. Data for establishment of norms were collected from 300 students over an eight-year period, while 44 subjects provided the final data. Participants were enrolled in classes at Cuyahoga Community College, Metropolitan Campus, Cleveland, Ohio, and at the Toledo Catholic Club of Toledo, Ohio. The findings furnished a basis for tentative conclusions that, in turn, may supply material for future investigations.

Principles and Components of an Effective Carry

In an effective lifesaving carry, according to the American Red Cross, the victim's face must be maintained above the surface so that he may breathe and his body position should be as nearly horizontal as possible. The rescuer must be able to control the victim, must have the greatest possible freedom of swimming movement considering the relative positions of victim and rescuer and must be able to provide for his own safety throughout the carry. The Royal Life Saving Society Canada lists similar principles and adds a requirement that the carry be speedy.

To define a good carry, these principles were translated into components, the presence or absence of which could be accurately observed and recorded. Two aspects of the carries were considered: (1) the state of the victim throughout the carry and (2) the actions of the rescuer which determine the state of the victim. (The third component dealing with the contact between rescuer and victim requires specific detail for each carry.) The two aspects were divided into six components. All components applied to the three basic carries: the cross-chest carry, the hair carry and the tired swimmer assist. The six components follow:

I. The victim is able to breathe throughout the carry. His mouth and nose are above water at all times.
II. The victim is towed smoothly through the water.
   A. There is no jerking in the horizontal plane.
   B. There is no bouncing in the vertical plane.
III. The rescuer has good control of the victim.
   A. Cross-chest carry – the rescuer's carrying arm has secure hold of the victim.
      1. There is no looseness of elbow across the victim's chest.
      2. There is no space between the victim's shoulder and the rescuer's armpit.
   B. Hair carry – the rescuer has secure hold of the victim's head.
      1. Hand contact is close to head.
      2. Hand contact is close to hairline.
      3. Elbow is kept extended throughout the carry.
      4. Depressed wrist provides leverage.
   C. Tired swimmer's assist
      1. The victim's hands are on the rescuer's shoulders.
      2. The rescuer's movements in no way cause the victim to loose contact.
IV. The rescuer's pulling arm(s) provide(s) maximum positive action and move(s) continuously.
   A. Negative action is limited to rapid recovery movements.
   B. There is no point in the action at which the arm is inactive.
V. The rescuer's legs provide maximum positive action and move continuously.
   A. Negative action is limited to rapid recovery movements.
   B. There is no point in the action at which the legs are inactive.
VI. Propulsive movements are continuous.
   A. The positive action of arm or arms flows into or overlaps the positive action of the legs.
   B. There is no point in the action at which arm and leg movements are in the negative phase simultaneously.

These components restate the principles of an effective carry in more objective terms. The first two describe what is happening to the victim during the carry; the third describes the point of contact which determines control by the rescuer; and the final three describe the actions of the rescuer which produce propulsion of self and

victim through the water and explain the state of the victim during the carry.

Subjective and Objective Evaluation

The six components of the lifesaving carries were used in checklist form to provide an evaluation instrument in which subjectivity was held to a near-minimum. A 10-point scoring system was devised in which the first component (involving the victim's ability to breathe throughout the carry) was awarded three points and all other items received one point each. A check mark indicated the presence of the desired action or result.

Swimmers carrying a victim within 10 pounds of their own weight performed each carry for a distance of 75 feet. Three evaluators all of whom were experienced in Red Cross water safety instruction and in high school or college teaching used the checklists. These evaluators formulated more specific definitions for items 4, 5 and 6 so that all would use similar reference points upon which to base decisions.

Stopwatch timing determined the objective evaluation. It was reasoned that, given two performances with identical checklist scoring, the faster carry would be the better. Conversely, given two carries of identical speed, the one with the higher checklist score would be the better. The two kinds of evaluation provided a more accurate basis for judgments than either subjective or objective evaluation could produce by itself.

Performance Levels

Based upon the findings, it was possible to determine three levels of performance. Mean times and scores are indicated in the following table. Two sets of checklist scores are shown; one based upon a maximum possible of 30 points when using three evaluators, and the other based upon a maximum possible of 10 points when using a single evaluator.

The six components that comprised the checklist were derived from the Red Cross principles of an effective carry. The question of adding speed as a seventh component was answered statistically. Both speeds and checklist scores were converted to T-scales. The addition of six T-scores for each swimmer, one for the speed of each carry and one for the checklist score of each carry, produced a single score representing each swimmer's total performance. The checklist scores contributed more to the total score on all three performance levels. The speed T-score, however, contributed proportionally more as the total scores increased. In the superior group, 43 percent of the swimmers recorded higher speed T-scores than checklist scores, while

Performance Level	Carry	Time in seconds	Score (30 max.)	Score (10 max.)
Superior	Cross-chest	:37.0	22.6	7.53
	Hair carry	:31.7	26.0	8.50
	Tired swimmer assist	:28.3	28.5	9.50
Average (passing)	Cross-chest	:45.0	17.0	5.66
	Hair carry	:38.3	21.0	7.00
	Tired swimmer assist	:34.0	25.0	8.33
Substandard (failing)	Cross-chest	:60.0	7.5	2.50
	Hair carry	:47.0	13.5	4.50
	Tired swimmer assist	:42.8	19.5	6.50

29 percent of the average and zero percent of the substandard group recorded higher speed T-scores. Speed, then, seems to be a valid component of the lifesaving carries and should be considered for evaluation purposes.

In an actual rescue, it can be said that the faster the carry, the better the rescue, if the victim is able to breathe throughout the rescue. In carrying an unconscious or nonbreathing victim, speed is the single most important factor so that the victim may be administered the necessary first aid and resuscitation measures, if this cannot be done in the water during the rescue.

Uses of the Evaluation Method

This kind of evaluation may be used in awarding letter grades, in determining the issuance of lifesaving certificates and in hiring of personnel for specific lifeguarding positions. Instructors would do well to time students in their particular pools and establish their own norms. This may be done also in river, lake and ocean swimming areas, and the norms established would be relevant to each facility.

The cross-chest carry and its variant, the two-arm control carry, are probably the most useful of the carries since they provide the greatest degree of control of a victim. They also demand a greater level of skill and stamina on the lifesaver's part. For these reasons, it is suggested for those who wish to attempt this kind of evaluation

that the cross-chest carry be given additional weight in determining a single score covering all three carries. It is suggested further that the single score covering the carries be weighted in the total evaluation covering all the lifesaving skills. A final score, thus attained, would reflect more accurately the student's ability to make an actual rescue unaided by equipment.

While the lifesaving carries comprise only one set of body-contact rescue skills, they are of prime importance – more so than defenses, releases and escapes. It cannot be denied that, lacking equipment, there can be no swimming rescue without an effective carry of some kind. It would be logical, therefore, to set the standard for passing performance at, or above, the mean of the average level of achievement. No matter how competent a swimmer is in such skills as approaches and releases, if his performance of the carries is below average, his right to a lifesaving certificate is questionable.

Testing for class grading purposes may be accomplished best by pairing swimmers according to height and weight whenever possible. This provides each student the opportunity to give his best performance, whereas using one victim for the entire class penalizes all who weigh less or are smaller. When testing to award lifesaving certificates, it is suggested that each candidate perform the carries twice – once carrying a victim of similar weight so that the resulting scores may be compared to the norms, and once carrying a heavier victim. When testing candidates for specific lifeguarding positions, one should use the heaviest victim possible. Those who would serve the public must be able to rescue anyone, not just someone of their own weight.

It can be said that a good lifesaving carry is speedy, reasonably comfortable for and comforting to the victim. Such performance may be accurately determined by a testing method that employs both controlled-subjective and objective evaluation. If such a method were used by all water safety instructors, it is possible that the lifesaving certificate would represent a recognizable standard and would be more meaningful than at present.

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There Must Be a Better Way!

PATRICIA A. SULLIVAN

An instructor in the physical education and recreation department at the University of Nebraska in Lincoln, Patricia Sullivan is a graduate of State University of New York College, Cortland and received her M.S. degree from Smith College, Northampton, Massachusetts. She has guarded, taught and supervised at public pools and private camps at high school and college levels.

The development of a qualified swimming instructor is a process requiring experience, exposure, concern and time. Most aspiring young swimming instructors are exposed to a limited number of teaching methods during their training periods. Usually, the student instructor will teach his first swimming classes in very much the same manner as he was taught. This does not necessarily say that using someone else's teaching methods is not a good policy – quite the contrary. So many instructors are effective that it would seem logical to copy their tried techniques. However, it is advisable to broaden one's repertoire of teaching cues, methods and references to facilitate successful learning experiences for all pupils. Instruction should be geared to the learner as we strive to be creative, innovative and effective teachers.

In our instructor preparation classes we often find that we must spend most class time in teaching and reviewing various skills and knowledges. Prospective teachers should be able to demonstrate with a reasonable amount of skill and assurance. But what other qualities do we want our students to have? We want them to have a thorough knowledge of the subject matter. They should be able to present an effective lesson plan. They should be developing "teacher poise" – that is, they should have an enthusiastic, self-assured and patient approach to the learning process. They should be able to identify and correct mistakes. Finally, they should know how and where to seek assistance with teaching problems.

Across the nation, many different techniques are being used to enable new instructors to be as effective as possible. Several methods which have been helpful to this instructor trainer follow.

Techniques for Student Teaching Instruction

To increase the student instructor's knowledge of swimming, we can ask that each student thoroughly research one stroke or skill and share this information, in the form of a written report, with the rest

of the class. For instance, if survival floating is the subject matter, we may expect the student instructor to report on the history and description of the skill, as well as on different ways to teach it, according to as many authoritative sources as are available.

To assist the student instructor in preparing an effective lesson plan, we can suggest that she follow a simple but logical outline until she feels comfortable enough to experiment without the structured plan. It should be emphasized that we generally are more successful teachers if we have organized our material before confronting the class! A good idea is to share verbally the steps one takes as an instructor in preparation for each class. A file card system for keeping track of new teaching cues, progressions and class organization methods also will help the budding instructor. Encourage her to record the unique cues and progressions rather than those which are very commonly used.

The development of teacher poise may be perhaps the most difficult objective to achieve. Some people seem to be blessed with a natural instinct as a teacher while others are not. Blessed or not, we can all stand evaluation in this area. Have the students evaluate each other in various teaching situations. Encourage them to practice teaching in areas where they feel weak. Have outsiders react to a lesson presentation by the student instructor. The class can work together to develop lists of positive and negative attributes for teachers they have had in the past. One of the most beneficial experiences in evaluating a teaching situation is the videotape. One session early in the course and one near the end are valuable and critical aids.

The ability to see and correct mistakes is often difficult to acquire. Loop films made with students performing strokes and skills incorrectly can be very useful. Student instructors can watch continuously, jotting down errors made and how to correct them. Another effective way to check the students' total understanding of the way a stroke or skill should be performed is to have them work in pairs or groups of three on "instant analyses." Students pool their knowledge in a limited amount of time; this often aids in listing the most important aspects of each phase of the stroke or skill. These on-the-spot quizzes can be commented on and/or graded by other students thus giving each person a chance to react to another skill.

One of the most important ideas to implant firmly in the minds of prospective teachers is that there are many, many sources for finding new and better ways of teaching. We should encourage student teachers to observe others in a teaching situation, to continue to take classes, to welcome constructive criticism and to accumulate a good reference library. We should remind them that for every swimming instructor there is a slightly different way of teach-

ing. We should recognize that there are several sponsoring agencies for aquatic specialist preparation. The YMCA, the American Red Cross and the Canadian Red Cross have prescribed prerequisites for various skill levels and for the certification of aquatic instructors. The American Alliance for Health, Physical Education, and Recreation also has established standards for teacher certification in the different aquatic emphases.

If we really want to mold effective teachers concerned primarily with the progress of their students, we must instill in them the desire to be resourceful and inventive in their new roles as aquatic instructors.

Objective Rating Scale for Subjective Evaluation of Swimming Skills

CLAUDIA J. FERGUSON

Claudia Ferguson received her B.S. and M.A. degrees from the Texas Woman's University, Denton. At the University of Northern Iowa, Cedar Falls, she taught aquatics to physical education majors as well as general education students. She has coached the speed swimming team and sponsored the synchronized swimming group. Currently, she is working towards the doctorate degree at the University of North Carolina at Greensboro.

The purpose of the project reported here was to establish an objective evaluation tool to be used in the program for physical education majors. Such a rating scale can be used as part of an evaluation of students for course equivalence. If students pass all parts of the evaluation, they will be exempt from the required course. The responsibility of the aquatics committee is to describe elements of good swimming and to devise a rating scale, written in movement terms. The committee was composed of Mary Lee Cathey, Barbara Yager and myself. Results of the developed procedures for skill rating follow in outline form:

I. Elements of Good Swimming

A. Body position is the working position of the body in relation to the task performed. Elements include the level of the body in the water, the angle in relation to the skill and natural position. The body position shows comfort and use of buoyancy and momentum for support.

B. Accuracy of movement is the pathway of the body parts in relation to the skills performed. This includes the control of the body parts in application of force and recovery.

C. Rhythm is the timing and tempo of movement. It includes effective flow of movement and coordination of the body parts in use with the appropriate tempo for skills performed.

D. Watermanship is the swimmer's degree of comfort and confidence through natural and effective movements. The swimmer demonstrates versatility, control and adjustment to various body positions in different levels of the water.

E. Breathing is natural for the task involved.

II. Procedures for Skill Rating

A. Each student will swim each of the strokes several lengths of the pool. Each stroke will be evaluated on a 5, 4, 3, 2, 1 scale in relation to body position, accuracy of movement and rhythm. A final stroke rating will be the average of the above three criteria.

Strokes to be evaluated:

1. Sidestroke
2. Front Crawl
3. Back Crawl
4. Breaststroke

B. Watermanship in strokes as well as in skills listed below will be evaluated on the 5, 4, 3, 2, 1 scale. An average of the stroke and skill scores will be the watermanship skill rating. Skills will be performed until the judges have determined a rating.

Skills to be evaluated:

1. Treading
2. Dive from side and/or low board
3. Bobbing
4. Somersaults
5. Surface dive
6. Standing on hands

C. Breathing will be observed in all strokes and skills performed and evaluated on the 5, 4, 3, 2, 1 scale and recorded once as the breathing skill rating.

III. Swimming Rating Scale

A. 5 = Excellent

Body position, accuracy of movement, rhythm: The level and angle for the skill is correct and natural. The leg and arm movements are highly efficient. The head and neck action is accurate and natural while breathing. Energy is expended effectively during the force and the recovery and a natural contrast between the two is evident – that is, there is a ballistic movement where called for, a glide where called for, or a pause with a stretch where called for.

Watermanship: Naturalness of facial expression, protection of the eyes and breathing are displayed. Easy and versatile movements are used to accomplish a variety of tasks in the water. Buoyancy and propulsion are effectively used together for maintaining appropriate level, body position and balance.

Breathing: Natural, comfortable. The breath is inhaled, exhaled and held naturally and effectively for the task. The volume of air and tempo of exchange of air is appropriate

for the task. Cardiorespiratory endurance is not to be considered.

B. 4 = Good

Body position, accuracy of movement, rhythm: Good body position shows comfort and good use of buoyancy and momentum for support. Movements show body control in applying force and recovering. Good rhythm means smooth and effective flow of movement, coordination and speed of the skill. However, there are finer points which need improvement in one or more of the above categories.
Watermanship: Good watermanship shows comfort and confidence in deep water.
Breathing: Good breathing is evident. However, there may be some finer points which need improvement in watermanship or breathing.

C. 3 = Average

Body position, accuracy of movement, and rhythm: The level of the body position is obviously too high or too low. The angle in the water generally is governed by the head being too high or too low. The position is strained for the swimmer and/or the skill. The leg action is basically correct but lacks the control and precision which offers good application of force, recovery or body balance because of such things as the legs moving too far apart, bending too much or moving out of the correct line. The arm action is basically correct, but it lacks the control and precision which offer good application of force, recovery or body balance, possibly because the reach is too short and the catch position is not accurate; the line of pull is not direct; the shoulder joint is not used naturally; or the pull is too long. The head is lifted too high out of the water when breathing or is buried in the water. The trunk is not stabilized. There may be too much or too little energy expended on either the force or recovery movement. The characteristics of the movement may not be efficient because they may not be natural or effective. The coordination of the arm action, leg action, breathing action and glide may not be accurate because a glide may come before a kick or the breathing may occur at the incorrect place in the skill cycle. The speed of movement may be so fast or so slow that the effectiveness is hindred or it may be inappropriate for the purpose of the skill.
Watermanship: A drawn expression or frowning may be evident; eyes may be squinting, too tightly closed, or big and round; breathing may be limited; disorientation may

occur underwater; treading and floating may demand unusual effort. Propulsion may be used at the expense of buoyance for body control or vice versa.

Breathing: Too much or too little air may be inhaled or exhaled which shows in shortness of breath. Breath may be held in the cheeks or by restriction in the throat which may be seen by exploding or tense vocal chords.

D. 2 = Fair

Body position, accuracy of movement, rhythm: The skill is barely recognizable because the body position deviates so far from that which is characteristic of an efficient skill. The movements appear to be made without any direct relation to efficient application of force, recovery or body balance. Some parts of the rhythm are so inaccurate that the stroke shows very little refinement. Considerable lack of timing, coordination and smoothness is evident.

Watermanship: Versatility and care of one's self are so limited that there is no comfort, confidence or efficiency in movements.

Breathing: The breathing is such that the tasks cannot be accomplished because of inadequate breath control. There may be such shortness of breath that a body position cannot be maintained or a task sustained. There may not be exhalation underwater.

E. 1 = Poor

Body position, accuracy of movement, rhythm: The rhythm is so poor that the skill is not executed.

Watermanship: This is so poor that no naturalness is displayed and not enough confidence is evidenced in deep water for the swimmer to be safe.

Breathing: This is so poor that the skill is not executed.

The first attempts in using this scale were a bit trying; however, as a whole it proved relatively satisfactory. Each time the scale is used, new ways to improve it are found. Besides the original purpose of the rating scale, it also can be helpful in acquainting a new staff member with the swimming program.

Theatrical Swim Show Production

K. DAWN BUTLER

K. Dawn Butler received her B.A. degree from the University of Illinois, Urbana, and her M.S. degree with an emphasis in creative swimming from Illinois State University, Normal. Her show compositions have been awarded honors at several international festivals of aquatic art. She directs the Marlin Swim Club at Maine Township High School South, Park Ridge, Illinois.

In a theatrical situation, a swim show director's knowledge of theater production is absolutely essential to the success of her swimmers' performance. Swim show production consists of four basic areas: costuming, lighting, audio and properties.

Costuming

A swimmer's costume needs to be designed so that it will portray the performer's theme, add to the beauty of the performance and in no way hamper the swimmer's movement. Costume color is a very important consideration – medium blues and greens tend to blend with the color of the water and are, therefore, less impressive than yellow, orange, white or black. For most costuming, some type of ornamentation should be chosen. Sequin trim, for example, is appealing because it reflects beautifully under theatrical lighting.

Finally, the selection of a headpiece is of utmost importance since the swimmer's head is her most visible body part. If a special headpiece is chosen rather than a decorative swim cap, the headpiece must be securely attached to the head so that it will remain in place through the composition. Occasionally, a swimmer may find it necessary to perform without a cap or headpiece to carry out her theme. In this situation, the hair should be secured so as not to distract from the swimmer's performance.

Lighting

Most swim show directors need to become familiar with incandescent follow spots, scoops and fresnels. Scoops and fresnels are used for stationary lighting effects and can be placed on or above the pool decks. Follow spots should be stationed high above the decks and placed strategically so that the faces of all swimmers are lighted simultaneously, regardless of their positions on deck or in the water. Care must be taken to check the placement of each light.

Improper placement can cause reflections from the water which are distracting to the audience. Swim show directors also should familiarize themselves with the colors available for their lighting instruments. Plastic sheets rather than gelatines are preferable for use in a pool area. To master the art of color selection for swim show lighting, the director must be willing to spend hours in experimentation. The most pleasing combinations are usually contrived by using a different color from each follow spot. If underwater lights are used, they should be covered with plastic covers to transform them into theatrical lights. Remember that the key to good theatrical lighting is variety from composition to composition with an occasional use of subtle lighting changes within a single composition.

Audio

Unless the sound is to be live, a good tape should be prepared for use during all dress rehearsals and performances. The best quality is obtained from open reel tape recorded at a speed of 7½. A cassette tape is acceptable, but this type of recording lacks the quality of open reel. Remember that the quality and level of sound are essential to a successful show. The equipment used to produce the tape and to transmit the tape must be of high quality to insure the best possible sound.

Properties

If portable properties are to be used, they must contribute to the theme of the composition, be produced easily and quickly at the beginning of the composition and be disposed of just as easily and quickly at the end of the composition. The most reliable properties are those stationed permanently throughout the show. Decorative screens placed on deck are useful for entrances and exits. Platforms, hanging ropes and fountains can add to the variety and excitement of a show. Ramps placed in the water offer an interesting alternative method of gracefully entering and exiting from the water. If a portable prop is used for deckwork, the swimmer should plan her choreography so that she can return to the prop and involve it in the conclusion of her composition.

Finally, the swimmers must fully realize they are participating in a theater art in which the swimming pool has become the stage. Care should be taken to develop in each performer an audience awareness which will strengthen the group's showmanship and stage presence. Excellence is achieved when both the production crew and swimmers become knowledgeable in the theater arts and develop pride in their performance.

Implementing a Training and Rating Clinic

CONSTANCE BIRKIE

Constance Birkie received her B.A. and M.A. degrees at Stanford University, Stanford, California, and her Ed.D. degree at the University of California, Berkeley. As an assistant professor of physical education at San Francisco State University, she is involved in the teacher education program. She also has coached the women's competitive swimming team which competes in the Northern California Intercollegiate Athletic Conference.

As competitive sports programs for girls and women increase in popularity and become more soundly financed, the demand for well trained officials also increases. A wide range of individuals, with variety in background, age and experience, should be encouraged to attend clinics and strive for ratings. High school and college students, recreation personnel, physical education teachers, coaches and parents can all be effective officials. Furthermore, even if a rating is not obtained, the training experience increases understanding of the competitive activity for participant, spectator and coach alike.

Preparing Candidates

Prospective candidates for a training and rating session should have some previous experience with the activity prior to the training session. Competitive swimmers, members of their families, and swimming coaches are excellent candidates for achieving NAGWS aquatics ratings. However, well managed meets cannot be run by one or two people, and supportive training is necessary. Physical education colleagues and recreation teachers of basic swimming can be good resources to draw upon. People who enter a training/rating session with serious intentions of obtaining a rating should have had one or two seasons of experience working various positions such as timer, lane judge, clerk of course, runner, and assistant recorder. After at least one season with a variety of practical experience, candidates should carefully read the current *NAGWS Aquatics Guide* before attending the first training session. If the candidate is adequately prepared with a background of some practical meet experience and a reading grasp of the rules and regulations, the training session becomes a meaningful clarification of details. All too often, a naive trainee who has had some swimming experience arrives at a clinic without knowledge of the *NAGWS Aquatics Guide*, and is overwhelmed by the amount of information that needs to be covered.

A serious trainee should not wait to purchase the *Guide* at the clinic. Clinicians would be wise to discourage *Guide* sales, except for other activities, directly at the clinic. Clinic publicity should clearly tell candidates to be familiar with the *Guide* and to bring copies with them to the clinic.

Planning the Session

Publicity. At least two months prior to a clinic, flyers and related information can be mailed and/or circulated through physical education departments in junior and senior high schools, community colleges and colleges within a 200-mile radius. Recreation departments, YWCAs and AAU teams should also be notified. It is hoped that the local NAGWS board aquatics chairperson will handle publicity and deal through local HPER vice presidents and publications and NAGWS bulletins. If these channels are unavailable, it is well worth the effort to send individual mailings. Flyers distributed at meetings and other clinics also stir interest. Publicity is very important.

Facility. Reserve a swimming pool and at least one classroom or lecture area. An additional room for projection work with slides is very desirable, but not necessary. Obtain the official written materials, scoresheets and examination materials from the local board sports chairperson. Secretarial help is very welcome in preparing written materials for all prospective trainees. Have at least two starting guns with ample cartridges for practice and be able to supply each candidate with a stopwatch. Supply clipboard and materials for each working clinician. It is helpful to ask the candidates to supply their own clipboards, *Guides,* whistles and pencils.

Personnel. Three national officials must be present at all national ratings, but five or six lead clinicians is ideal. Not all clinicians need to be national officials. At least two clinicians should proctor the theoretical examination. A lead clinician is needed to direct each of the three rotational groups on judging finishes, timing and disqualifications. It is helpful if other lead clinicians assume the responsibility of the starting station and the diving session.

Swimmers. Swimmers and divers should be familiar with the procedure and purpose of the rating session. Some young, immature swimmers tend to feel persecuted by amateur disqualification practice. A minimum of two divers and 20 to 24 swimmers will be needed. The divers should be able to perform one dive in each of the five groups.

Time Allotment. Of course, several time-plan options are open for training and rating a group of qualified people, but experience shows that unless the clinic is offered as a regular class, two full days of work is the most popular approach. Reserving facilities, amassing the needed officials and clinicians, obtaining the proper equipment, securing enough swimmers and divers and asking candidates to invest their time constitute a sensitive juggling act. Most participants in swimming clinics have appreciated one full day of training and one full day of testing-rating. Consecutive days, i.e., a Saturday of training followed by a Sunday rating, seem too intensive because there is too much material to digest in that short period of time. One week between training and rating seems ideal, but two weeks between the two sessions is also acceptable.

It is advisable to plan for an optional theoretical examination time a few days before the rating session – perhaps to offer a written examination time midweek in the evening. A candidate must pass the written examination before she takes the practical. There are two forms, A and B, of the written examination. A candidate may retest either the written or the practical examination. Not more than two theoretical and two practical examinations may be given a candidate in any one year, and they must be from the same board. Therefore, it seems reasonable that the rating board give the candidate the opportunity to retest. If a candidate fails Form A on the optional written examination experience, she may retest on the rating day with Form B. If a candidate chooses not to take the early examination, she will take Form A on the rating day and will have waived the opportunity for re-examination.

Setting up an examination period prior to the rating day is also very helpful to clinicians. It ensures an accurate estimate of the number of candidates who will be participating in the practical examination.

Candidates may not take the practical section of the examination for any higher rating than they receive on the theoretical portion of the test. It is possible that a candidate may do well on the written section, but make some significant errors on the practical exam. As with the written, she may take a second practical examination within the year from the same board. Therefore, a follow-up retest should be planned from the beginning. Such a test can always be cancelled if all candidates are fortunate enough to pass. This retest of the practical examination should be set up within a week or two because all candidates will be awaiting the processing of their ratings through the authorizing board.

Summary. The ideal time for a training and rating clinic would include a weekend full day for training and a midweek evening exam

session, a weekend full day for rating, and a follow-up half day for practical re-examinations.

Instruction of the Training Session

Effectiveness of the instruction at the training session can make the difference between fruitful reward and wasted effort. If the instruction is good and thorough, more qualified officials are added to the local Board. Since the all-day session could be a marathon for any single instructor, variety, interest and vitality may be preserved if clinicians take turns presenting portions of the material. All the national officials needed for the rating session do not have to attend the training session, but, of course, they would be of help. Instructors for the clinic should have experience and expertise in the areas they cover.

Below is an outline of instruction for training that has been a successful aid in dividing instructional responsibilities and adequately covering the necessary materials. It has been planned primarily through the clinic experience of Sue De Vries, honorary national official and aquatics chairperson, San Francisco Counties Board, and Bonnie Edwards, national official, Coastal Valleys Board.

Class Room Lecture No. 1

Organization of a Swim Meet
Mechanics of Setting up the Pool
Entries
Number of Contestants
Scratch Meetings
Substitutions
Placements of Officials and their Duties

How to Organize Officials for a Meet:

1. Meet Director
2. Referee
3. Judge of Strokes and Turns
4. Starter
5. Chief Timekeeper and Timers
6. Chief Judge and Lane Judges
7. Runner
8. Recorder
9. Clerk of Course
10. Announcer
11. Diving Referee and Judges

Swimming Pool

Stroke and Turn Demonstration

Use of two or three experienced swimmers to demonstrate key disqualifications

Practice in Officiating

Stations by Assignment (15 minutes per station)

Station I – Judging Strokes and Turns
Station II – Starting
Station III – Timing and Lane Judging

Diving Officiating, Instruction and Demonstration

Class Room Lecture No. 2
Diving Scoring
Ballot System
Seeding and Lane Assignment
Championship Meets
Swim-offs
Scoresheets and Swimmers' Cards

Summary

Girls and Women's Sports Board that do not have enough national rated officials to offer rating clinics should attempt to contact neighboring boards for assistance. If the interest and need is within the area of service, it behooves the board to try to build a nucleus of qualified officials in that locale. National officials are usually more than willing to assist in developing new areas and revitalizing active boards. Most officials and clinicians are used for their skills and thoroughly appreciate travel expenses; the current *NAGWS Aquatics Guide* recommends fees for work rendered. Therefore, it is advisable that clinic planning include a careful estimate of expenses which may be incurred and arrange to charge appropriate registration fees to defray costs.

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Pool Maintenance

CLEVO WHEELING

Clevo Wheeling received his B.S. degree from Roanoke College, Salem, Virginia. He is supervising sanitarian for the division of environmental health, consumer services section, Fairfax County (Virginia) Health Department. Formerly, he was instructor for the Swimming Pool Operator's Training Association of the Washington, D.C. Metropolitan Area.

Approaching a pool, a swimmer can judge immediately the quality of maintenance. If the water is sparkling clear and the bathhouse or dressing room and deck areas are clean and neat, then the operator is doing a good job and anyone using the pool is confident in finding a healthy, safe place to swim. If the water appears cloudy and murky, the deck and bathhouse or dressing room areas cluttered and dirty, the person may have second thoughts about swimming there, and rightly so.

With the expensive and sophisticated equipment used in the construction of today's pools along with their built-in durability, little skill is required for proper maintenance. Indeed, with a minimum amount of conscientious effort, a little know-how and some common sense, there should be no problem in maintaining a pool in new condition for several years.

Types of Maintenance

Maintenance includes (1) off-season as well as in-season care and (2) preventive and corrective care. Off-season maintenance can be most important and has a direct effect on the operating season; this article, however, will only discuss in-season care.

The pool operator should be wise enough to detect and interpret the signs of imminent breakdowns or malfunctions which may cause a closedown of the pool. When conditions occur which are beyond the operator's capabilities, he should call on the specialist.

Bathhouse or Dressing Room

One must check all emergency accesses to the pool and make sure they are not blocked. Since the patron must first enter the bathhouse (outdoor pool) or dressing room (indoor pool), this is his first contact with the pool. What he sees and smells here will form his opinion of the entire pool.

Good housekeeping practices are the secret. Special attention must be given to lavatories, toilets and floors. Floors should be

thoroughly cleaned and treated two or three times daily, including brushing and mopping with soap and hot water followed by the application of a chlorine solution or other disinfectant. This treatment helps prevent slippery spots and the spread of athletes' foot.

Shower stall drains must be checked to make sure they are not clogged, and soap dispensers must be filled. Soap and paper towel dispensers at the hand basins must be refilled. The hot water must be checked to see that all anti-scald devices and mixing valves are functioning properly.

Pool regulations must be posted prominently in the bathhouse (outdoor pool) or pool area (indoor pool). The operator must check for vandalism and disfigurement and correct any damage. Above all, he must see that these rules are enforced.

The operator must see that all lighting fixtures are maintained in safe and working order along with the means for providing ventilation. Ventilation of a bathhouse or dressing room should be such that it will allow for quick drying of the area.

Pool Area

The walkways from the bathhouse or dressing room to the pool area should be free of water. Any steps should be kept dry and the handrails tight and secure. The approach to the pool from the bathhouse or dressing room should be to the pool's shallow end.

Water fountains in the swimmers' area should be checked for proper operation. If food and beverages can be obtained at the facility, the area to which they are confined must be checked to make sure that all barriers and signs are in proper order and that the area is free of trash and safety hazards.

Trash receptacles in the pool area should be emptied and cleaned if necessary. The deck furniture should be checked for loose or broken straps, slats, arms or legs and repaired or replaced. The pool area must be arranged so that it presents no safety hazard to swimmers.

The deck area must be cleaned and checked for any safety hazards such as missing deck box lids, skimmer lids, open cracks and unlevel sections on which swimmers might trip. Water puddles should be cleared from the decks, otherwise they will become slippery with algae growth and present a safety hazard. These areas must be repaired to drain properly or dried with a squeegee frequently enough to prevent algae growth.

Pool

The automatic surface skimmers should be checked for balanced flow and the strainer baskets cleaned or any debris collected overnight. The weirs should be checked for freedom of movement and

any with sticking hinges should be replaced. Overflow gutters should be cleaned of any accumulated debris.

All deck equipment, including the diving boards and stands, slides, ladders and handrails, must be checked to make sure they are safe and secure. Those needing repairs must be removed immediately or safely barricaded against use.

Next, the pool interior should be inspected and any large foreign objects removed. The entire floor of the pool must be vacuumed or brushed to remove sediment or stains. Most pools now have built-in vacuuming connections. Those without this provision can be vacuumed with portable equipment for this purpose.

It might be advisable at this point to test the condition of the pool water as to its chlorine residual and acid-alkaline balance. Every swimming pool should have a reliable test kit. Chemical treatment is vitally important in providing safe water for swimming. Most areas have health departments with definite requirements which must be followed. When the chemical condition of the pool water has been determined, the operator can proceed to the filter room with the information to increase, decrease or leave as is, the feed rate of the chemical feeding equipment.

Equipment Maintenance

The filter room houses all the mechanical equipment for the chemical feeding of the pool water. Any gas chlorination equipment used for disinfection must be housed in a separate room off the filter room. This room contains only the chlorine feeding equipment and must be provided with an exhaust fan located at floor level and a fan-activating switch located outside this room. The fan must be allowed to run two or three minutes before opening the door and entering the room to eliminate any poisonous chlorine gas fumes in the room and alert the operator to a possible leak. In all cases, because of the potential danger involved in handling chlorine gas, repairs to a chlorine gas feeder must be attempted only by a trained technician.

If chlorine gas is not used, a solution feeder of the positive displacement type most likely will be used. This pump uses a piston or diaphragm and a series of check valves to force a liquid into a water line. It is fairly easy to maintain since it handles solutions less dangerous than gas chlorine and the pool operator can dismantle and repair or replace parts. Pumping action is accomplished by an electric motor with an eccentric cam withdrawing a piston or diaphragm from a hollow plastic block, which permits liquid to flow into the space and pushes the piston or diaphragm into the block to force the liquid on its way. Malfunction usually occurs from a leaky piston or diaphragm, a sticky check valve or clogged lines. Thorough cleaning,

lubrication and a check for loose connections will restore the pump to proper operation. Clogged lines or valves may be cleaned by pumping a dilute acid solution, such as muriatic acid, through the feeder until all the residue is dissolved. Preventive maintenance is periodic cleaning with the acid solution. Chemical feeders of the type described above normally will be used to feed liquid sodium hypochlorite, dissolved calcium hypochlorite, solutions of soda ash or alum and occasionally algaecides and acid.

Sometimes pot-type or flow-through feeders are used for feeding slow dissolving material such as alum and soda ash. Maintenance of this type feeder consists primarily of constant attention to prevent clogging of the lines and valves. Cleaning by flushing with clear water is the most frequently used method; however, flushing with an acid or alkali may be necessary, depending upon the compound to be fed.

Dry feeders are used when a dry compound, either powdered or granulated, is to be fed. The dry material to be fed in the proper amount is placed in a hopper, and, depending on the type of machine, is vibrated or forced by a worm gear, paddle wheel, piston or chain lugs into the receiving container. Maintenance of these feeders centers on the worm gear, chain drive, paddle wheel or piston which becomes clogged and must be cleaned. Proper cleaning and lubrication are essential.

An essential item in the maintenance of the chemical feeding equipment is frequent inspections during the day, never allowing a leak or malfunction to continue. Some of the solutions being fed are highly corrosive and, once a leak begins, it soon becomes large. Damage occurs to other equipment in the room with which the corrosive solution comes into contact.

Filters

Of the other equipment in the filter room, the largest is the filter. Several types of pool filters are available.

The conventional rapid sand and gravel filter with a filter flow rate of three gallons per minute for each square foot of filter surface is efficient and relatively trouble free. These filters are operated 24 hours a day. Daily maintenance means checking the pressure gauges to determine if the filters need back-washing.

A difference of six to eight pounds per square inch in pressure between the influent and effluent gauges indicates back-washing is needed. Once back-washing is done, the required alum dose is added as a filter aid. All air must be removed from the filters daily by hand valves or by automatic air-release valves. These valves must be maintained free of obstructions. The filter media should be checked annually and, if needed, cleaned and replaced. The filter tank needs to be checked for rust and corrosion and a protective coat of paint

applied. Anthrofilt filters have the same maintenance requirements as conventional rapid sand filters.

High rate sand filters operate at flow rates up to 20 gallons per minute per square foot of filter area. They are back-washed at the same rate used for filtering. Alum is not required and is seldom used with high rate sand filters. Maintenance of the high rate filters is minimal and consists mainly in keeping the shell free of rust and properly painted.

Diatomaceous earth filters are somewhat more complex than sand filters and require more skill and attention in operation. Diatomaceous earth is used as a filter aid and filters require about two ounces of diatomite for each square foot of filter surface. Diatomite filters may be of the closed-tank or pressure type or of the open-tank vacuum type. Both types should operate at a flow of approximately two gallons per minute per square foot of filter area. Diatomite filters are back-washed by washing the dirt and diatomaceous earth from the filter elements. A new coat of diatomite is added immediately. Dirty water should never be circulated through a diatomite filter unless the elements are first coated with diatomite. Since the filter elements are made of closely woven screens of stainless steel, monel metal, or a synthetic fabric, they can become torn or punctured. If this occurs, the elements must be removed from the tank and replaced with new ones. The elements can become clogged with scale, rust or grease. In most cases, if the clogging is greasy, it can be removed by recycling water to which has been added a low-sudsing detergent. If the clogging is caused by scale or rust, the elements can be cleaned by recycling water to which has been added an acid. Oxalic acid is commonly used since it is not particularly dangerous to handle, although it is poisonous. Badly clogged elements must be removed and scrubbed by hand.

Pumps

A pump is needed to recirculate the water from the pool to the filter and back to the pool. Only centrifugal type pumps should be used. An electric motor is used to operate the pump, so unless the operator is equipped with the proper tools and knowledge, motor repairs should be left to the electrician who specializes in this work. There are several precautions the operator can take to reduce the need for major repairs. The area around the motor must be kept free of dirt, moisture and articles that obstruct air circulation. Any unusual sounds or excessive heat coming from the motor should be reported and the electrician called to perform the maintenance required.

Mechanical self-lubricating seals on the pump shaft require no maintenance; however, grease lubricated seals require about a one-

fourth turn of the grease cap approximately every four hours of operation. Packing gland seals require regular adjustment to maintain leakage of five to seven drops per minute.

The pump, which can be considered the heart of the recirculation system, must be protected from damage at all times. Any foreign substances entering the pump housing may result in damage to the impeller or pump housing. Consequently, it is important that the hair and lint strainer basket be in place and cleaned daily, especially after vacuuming of the pool bottom. A good practice is always to have a spare strainer basket on hand.

All valves in the recirculation piping should be in proper position either open or closed while the the pump is operating. Although momentarily closed valves on the discharge side of the pump may cause no damage, they should not remain closed long. If valves have to be closed on the suction side of the pump, the pump should be stopped unless one valve can be left open and enough water supplied to satisfy the pump. Cavitation of the pump occurs when it becomes starved for water, and damage can occur with possible explosion of the pump housing.

Filter Accessories

All valves on the recirculating system must be maintained to operate freely without sticking. Occasionally, operating them through their entire range will prevent corrosion and dirt from sealing them. The valve stem packing glands, particularly on gate valves, may need occasional tightening or repacking to prevent leakage. Valves which do not close properly may have to be opened and cleaned, or may need repair work on the valve seats. Repairs beyond this simple maintenance must be performed by qualified plumbers. The piping, valves, filter tank and pump must be maintained free of rust and coated with a protective coat of paint.

Filter Room

The filter room must be kept dry, well lighted and adequately ventilated. It must contain only those items pertaining to the pool filtration system and not allowed to become a general storage room. It must be kept locked to prohibit entry by unauthorized persons.

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Bibliography listings date from 1973. No publications included in former *Guides* are repeated here. See previous *DGWS Aquatics Guides* for earlier references. Prices, if indicated, are subject to change.

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CANOE. Sondreggeer Publications, Inc., Suite 3200, Tribune Tower, 435 N. Michigan Ave., Chicago, IL 60611. Published bimonthly. $3.50 per year.

DIVE BUSINESS. Smith Publications, Inc., 4138 Atlantic Ave., Box 7765, Long Beach, CA 90807. Published bimonthly. $5 per year. Scuba diving featured.

DIVE. Smith Publications, Inc., 4138 Atlantic Ave., Box 7765, Long Beach, CA. 90807. Published bimonthly. Devoted to skin diving.

NCAA NEWS. National Collegiate Athletic Association, Box 1906, U.S. Highway 50 and Nall Ave., Shawnee Mission, KS 66222. Published monthly. $4 per year.

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Film Bibliography

SHARON Z. KITTERHAGEN
Harvard High School
Harvard, Illinois

This bibliography includes only selected films released from 1973 to date. Another source of information includes all previous issues of the DGWS *Aquatics Guide*. Numbers in parenthesis refer to the film distributors listed at end of this section.

All Events Film on Men's Swimming. 1973. 15 min. 16mm or super 8mm/silent/b&w. Sale, $52 for 16mm or $13 per stroke; $40 for super 8mm or $10 per stroke; no rental. Includes butterfly, backstroke, breaststroke and freestyle. (8)

All Events Film on Women's Swimming. 1973. 8 min. 16mm or super 8mm/silent/b&w. Sale, $26 for 16 mm and $20 for super 8mm; no rental. Includes butterfly, backstroke, breastroke and freestyle. (8)

Focus on Ability. 1975. 22 min. 16mm/sound/color. Sale, $74; rental, free; Stock #321604. Deals comprehensively with the teaching of swimming to all types of handicapped individuals. Designed to give instructors in handicapped swimming basic techniques they need to know when dealing with students who have orthopedic, mental, emotional or sensory disabilities. (1)

Learning to Dive. 1974. 16 min. 16mm/sound/color. Sale, $275; no rental. Answers questions about diving, from basics to competitive diving. The film includes Olympic diver, David Bush, and international springboard champion for the Hall of Fame event for 1973, Christine Loock. (5)

Men's Diving. 1973. 8 min. 16mm or super 8mm/silent/b&w. Sale, $26 for 16 mm and $20 for super 8mm; no rental. Different 3-meter springboard and 10-meter platform dives, most taken at the '72 Olympic Games, are shown in slow motion. (8)

Skin and Scuba Diving. 1974. 15 min. per filmstrip with cassette tape. 35mm/sound/color. Sale, set of 21, $415.80 or $22 each; no rental. Deals with an introduction to diving, basic diving equipment, basic skin diving techniques, underwater physics, medical aspects of diving, basic scuba diving techniques and rescue and first aid. (2)

Swimming and Diving. 1973. 3 min. per loop. 16mm or super 8mm/silent/b&w. Sale, 16mm, 1-3 loops, $4.50 each, 4 or more loops, $3.95 each; super 8mm, 1-3 loops, $3.50 each, 4 or more loops, $2.95 each; no rental. Loops of noted competitors available on butterfly, backstroke, breastroke, freestyle and individual

medley. Loops also available for 3-meter springboard diving and 10-meter platform diving. (8)

Swimming and Diving Today. 1974. 17 min. 16mm/sound/color. Sale, $125; rental, schools may obtain film through their state high school association on a free-loan basis or for a very modest service charge. Uses slow motion, stop action and instant replay techniques to clarify rule interpretations and official's procedures for interscholastic swimming. (6)

Synchronized Swimming. 1974. 3½ min. per film. 16mm or super 8mm or super 8mm cartridge/silent/color. Sale, set of 12, $199.95 or $19.95 each; $18.30 per film for three or more, no rental. Includes the mechanics of stunt figures, basic stable positions, primary and secondary propulsion, support sculling and transitions. Slow motion and underwater photography are used to illustrate techniques. (4)

Teaching Johnny to Swim. 1973. 15 min. 16mm/sound/color. Sale, $45; rental, free; Stock #321560. All-new version of the award-winning film originally produced in 1959. Shows how parents can teach their children to swim by utilizing the Red Cross booklet of the same name. A young boy and his sister are learning swimming, diving and lifesaving techniques from their parents. Film was made possible by a public service grant from Metropolitan Life. (1)

Techniques of Artificial Respiration. 1973. 11 min. 16mm/sound/color. Sale, $40; rental, free; Stock #321621; Spanish version, Stock #321624. Deals primarily with the techniques of mouth-to-mouth resuscitation. (1)

Water: Friend or Foe. 1973. 23 min. 16mm/sound/color. Sale, $250; rental, $20. Deals with the basic safety rules of how to avoid accidents and how to rescue oneself and others in a variety of situations involving still and moving water. (7)

Water Safety: An Introduction. 1974. 10 min. 16mm/sound/color. Sale, $140; rental, $11. Illustrates a variety of ways to avoid water accidents, the right and wrong ways of helping yourself or someone else in trouble, and survival floating techniques. (3)

Women's Diving. 1973. 8 min. 16mm or super 8mm/silent/b&w. Sale, $26 for 16mm and $20 for super 8mm; no rental. Springboard and platform dives are shown in slow motion. Most shots were taken at the '72 Olympic Games. (8)

Film Distributors

1. American National Red Cross, General Supply Office, 18th and E Sts., N.W., Washington, DC 20006.
2. Bergwall Productions, Inc., 839 Stewart Ave., Garden City, NY 11530.

3. BFA Educational Media, 2211 Michigan Ave., Santa Monica, CA 90404.
4. Champions of Film, 745 State Circle, Ann Arbor, MI 48104.
5. Creative Child Productions, 7146 Currin Dr., Dallas, TX 75230.
6. Official Sports Films, 400 Leslie St., Elgin, IL 60120.
7. Pyramid Film Producers, Box 1048, Santa Monica, CA 90406.
8. Sports Market Publications, P.O. Box 1293, Los Altos, CA 94022.

NAGWS OFFICIATING SERVICES

Through its standing committee on Officiating Examinations and Techniques, the National Association for Girls and Women in Sport (NAGWS) provides materials for the training and rating of officials in ten sports to meet the various levels of sports events.

Approximately 200 boards of officials throughout the U.S. are affiliated with NAGWS through an organization of affiliated boards called the NAGWS Affiliated Boards of Officials. These boards provide opportunities for interested individuals to learn about officiating or judging and are authorized to give NAGWS ratings.

The Officiating Examinations and Techniques Committee includes the P and T of O (Principles and Techniques of Officiating) Chairpersons. These individuals are specifically concerned with enumerating the mechanics used by referees, umpires, and judges in officiating games, meets or matches.

The Officiating Examinations and Techniques Committee also includes an E and R (Examinations and Ratings) Chairperson for each sport in which ratings are given. Each Chairperson and committee are responsible for preparing, revising, and analyzing the officiating theoretical (written) examinations.

If you have questions concerning the techniques of officiating competitive swimming and diving, write to:

NANCY O'CONNOR
Colorado State University
Ammona Hall
Ft. Collins 80521

Information regarding study questions in this aquatics guide or on the theoretical examination on competitive swimming and diving should be addressed to:

DEBORAH PARRAMORE
Columbia College
Columbia, S.C. 29203

If you have questions concerning the techniques of officiating synchronized swimming, write to:

HOLLY SZABO
Univ. of Vermont
Burlington 05401

Information regarding study questions in this aquatics guide or on the theoretical examination on synchronized swimming should be addressed to:

ANNE WINTER
Univ. of Wisconsin–LaCrosse
LaCrosse 54601

Additional information regarding NAGWS Officiating Services may be secured by writing:

NAGWS/AAHPER
1201 Sixteenth St., N. W.
Washington, DC 20036

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ORDER FROM
American Alliance for Health, Physical Education, and Recreation
1201 Sixteenth Street, N.W., Washington, D.C. 20036

STATEMENT OF PHILOSOPHY OF THE AFFILIATED BOARDS OF OFFICIALS: THE ROLE OF THE OFFICIAL IN THE COMPETITIVE SITUATION

Educational values should be of primary concern to all who have leadership roles in a competitive program. As one of those fulfilling leadership roles, the official must be concerned with promoting these values and with the welfare of the participant. The unique contribution of the official is assuring equal opportunity and fair play for all. The official essentially acts as an arbitrator, providing judgments that are within the spirit and intent of the rules. Decisions are based on objective evidence, free from bias and from the emotion that often pervades the competitive environment.

An official enters the competitive situation with a thorough understanding of the letter, as well as the intent of the rules, the strategy and skills of the sport to be played, and correct execution of officiating techniques to view the contest accurately. The official maintains a friendly yet reserved attitude toward all throughout the sport experience. The official is flexible, operating within officiating standards appropriate to the age of the performers, the level of skill, and the facilities available. Biases by players, spectators and coaches will be evaluated with an understanding not only of the multiplicity of the ways in which individuals may react to a competitive experience but also of the behavior appropriate to such an educational experience. Duties will be performed fairly, efficiently and without drawing undue attention to the official. In order to strengthen the official's effectiveness, personal evaluation of performance will be made and solicitation of constructive criticism from coaches, players and administrators will be sought. Though receiving a fee, the ultimate reward to the official will be that of having rendered a valuable service to girls and women who have found personal meaning in expressing themselves through the medium of sport.

STANDARDS FOR OFFICIALS RATINGS IN SWIMMING AND DIVING[1]

There are six ratings for officials, five of which qualify the holder to officiate sports contests. Each is designed to meet the needs of various sports events and to stimulate interest of individuals who desire to officiate.

The *Examiner's rating* signifies the holder is qualified to rate officials.

The *Intramural rating* qualifies the holder to officiate contests in the school in which the holder is enrolled or contests of comparable level.

The *Apprentice rating* qualifies the holder to officiate contests which may be adequately controlled by a competent, but inexperienced official.

The *Local rating* signifies that the holder is qualified to officiate interscholastic and intercollegiate contests requiring a competent and experienced official.

The *State rating* signifies that the holder is capable of officiating any contest within the state or region where the rating is awarded.

The *National rating* signifies that the holder is capable of officiating any contest anywhere in the United States. This rating is for the most highly skilled official.

Specific requirements for all ratings are outlined below.

Examiner

1. Prerequisite – must have held a state or national rating for a minimum period of six years. (The six years need not be consecutive but must be within the previous eight-year period.)
2. Theoretical examination – national examination, minimum 82.
3. Duration – two years from next June 1.
4. Renewal:
   a. In order to be eligible for renewal, the candidate must have been involved in the rating or training of officials.
   b. To renew, the candidate must pass the national theoretical examination with a minimum score of 82.
   c. Should the rating lapse for one year or less, the candidate remains eligible for renewal.
   d. Should the rating lapse for more than one year, the candidate must qualify through earning a State rating.
5. This rating is transferable to other Boards.

[1] Note the current *NAGWS Basketball Guide* for information regarding ratings in all sports and for the most updated information about Affiliated Boards of Officials standards and practices.

Intramural Official

1. Minimum standards – set by Affiliated Board.
2. Duration – two years from next June 1.

Apprentice Official

1. Minimum standards can be set by the affiliated board, *or* these standards may be followed:
   a. Minimum grades – average of theory and practical, 75.
   b. Theoretical examination – national examination, minimum 74.
   c. Practical examination[2] – minimum 75; minimum number of raters: one.
2. Duration – Two years from next June 1.

Local Official

1. Minimum grades – average of theory and practical, 80.
2. Theoretical examination – national examination, minimum 76.
3. Practical examination[2] – minimum 80; minimum number of raters: two.
4. Duration – two years from next June 1.
5. This rating is transferable to other Boards.

State Official

1. Minimum grades – average of theory and practical, 85.
2. Theoretical examination – national examination, minimum 82.
3. Practical examinations
   a. Practical examination[2] – minimum 85; minimum number of raters: three.
   b. Alternate plan for competitive swimming and diving – after holding a State rating with the same board for four consecutive years, the official may request that seven different coaches evaluate the official's performance in lieu of the practical rating session.
4. Duration – two years from next June 1.
5. This rating is transferable to other Boards.

National Official

1. Minimum grades – average of theory and practical, 88.

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[2] Persons holding a State, National, Honorary National, or Examiner's rating are qualified to rate. Any rating team may include no more than one Examiner.

2. Theoretical examination – national examination, minimum 88.
3. Practical examinations
   a. Practical examination[2] – minimum, 88; minimum number of raters: three, one of whom must hold a National rating.
   b. Alternate plan for competitive swimming and diving – after holding a National rating with the same board for four consecutive years, the official may request that seven different coaches evaluate the official's performance in lieu of the practical rating session.
4. Duration – two years from next June 1.
5. This rating is transferable to other Boards.

Recommended Fees[3]

Local boards should establish minimum fees that reflect the level of rating of the official as well as the type and level of competition within their locale. Boards are encouraged to establish fees in conjunction with local governing groups. The fee schedule should reflect differential pay based upon rating levels.

[3] Based on the NAGWS position advocating equal opportunity for all individuals and equal pay for equal service, the Affiliated Boards of Officials Executive Council voted to delete recommended fee schedules (March, 1975). As fees received by various boards throughout the nation differ from one another and from other officiating associations, problems existed in recommending minimums that were fair and equitable for all.

REGISTRATION OF OFFICIALS

A number of states require those who officiate either boys' or girls' interscholastic contests to be registered with the State High School Athletic Association or other administrative body. Holding a NAGWS rating ordinarily does not exempt an official from complying with this regulation.

All NAGWS officials who officiate any high school or junior high school games are urged to cooperate fully with their state regulatory body by registering with the proper organization and paying any required fee, by wearing the official emblem in addition to the NAGWS emblem, and by complying with all requirements for sports officials.

AMATEUR STANDING OF OFFICIALS[4]

An official who wishes to maintain amateur status as a participant in a sport must be aware of the ruling(s) on amateur status established by the governing body for that sport.

Amateur status may be defined by groups governing high school and college level competition. National organizations governing amateur competition may also have established rulings on the amateur status of the participant.

The official who wishes to maintain amateur status as a participant is responsible for investigating the specific regulations of the governing body that has jurisdiction over such eligibility.

Amateur Standing in Swiming and Diving

According to the Amateur Athletic Union, which has jurisdiction over amateur swimming, an individual receiving compensation for officiating in any sport renders that individual ineligible for further amateur competition.

An official, without jeopardizing amateur standing, may request, receive, or accept expenses in connection with participation in any event which shall not exceed (a) actual expenditures for travel and (b) actual expenditures for maintenance up to a non-itemized total of $10 per day.

HOW TO BECOME A RATED OFFICIAL

1. Study the rules, the article on the techniques of officiating, and the study questions.

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[4] For more complete details, see *JOPHER* 39:24-27, October 1968.

2. Attend interpretations meetings and officiating clinics or training courses conducted in your vicinity.
3. Practice often. To some, officiating comes easily; to others it comes only as the result of hard work and concentration. Welcome criticism and work hard to improve.
4. Find out from the chairperson of the nearest affiliated or provisional board when examinations for ratings are to be held. (Consult list of boards in NAGWS Directory available from: NAGWS/AAHPER, 1201 Sixteenth St., N.W., Washington, DC 20036.)
5. Contact the chairperson of the nearest affiliated or provisional board for materials necessary to give Intramural ratings.
6. Remember that it is the aim of the Affiliated Boards of Officials to maintain a high standard for National officials. Do not be discouraged if you do not receive a State rating on your first attempt. Welcome suggestions from the examiners, practice more, and try again.

INFORMATION FOR AFFILIATED AND PROVISIONAL BOARDS

An *affiliated* board is authorized to give ratings at all levels in that sport.

A *provisional* board is a board which has at least three Apprentice officials in a given sport; it is authorized to give ratings at the Intramural and Apprentice levels in that sport.

Exceptions: When rating films are used as a medium for the practical rating (synchronized swimming and gymnastics), boards may award ratings at any level.

An Officiating Board may have *affiliated* status in one or more sports and/or *provisional* status in one or more sports. When a Board has *affiliated* or *provisional* status in a sport and wishes to have affiliated and/or provisional status in another sport, that board should write to the Examinations and Rating (E.&R.) Chairperson of the respective sport. The board should indicate the names of a minimum of three persons qualified to act as examiners in that sport for the next two years. Qualifications and experience in the sport should be listed for each examiner.

NOTE: For basketball and volleyball an examining committee of three persons holding State, National, Honorary National or Examiner's ratings is required. No specific number of rated officials is needed to initiate ratings in Badminton, Gymnastics, Softball, Swimming, Synchronized Swimming, Tennis, and Track and Field.

If, after two years, a board does not have three State officials in a sport, the board loses its affiliated status for giving ratings in that

sport. (Exceptions: gymnastics and synchronized swimming.) The board may then request provisional status in that sport from the E.&R. Sports Chairperson. If granted, the board may continue to exist with provisional status and award only Apprentice and Intramural ratings. To continue as a provisional board after two years the board must have a minimum of three officials with at least an Apprentice rating in each sport concerned.

Examination packets are mailed to qualified boards on:

August 1 – Volleyball and Basketball
September 15 – Competitive Swimming and Diving, Badminton, Tennis
October 1 – Fencing
October 15 – Synchronized Swimming, Gymnastics
February 1 – Softball and Track and Field

Emblem and Uniform

The emblem for National officials in all sports consists of a shield. Other emblems are available for State, Local, Apprentice and Intramural officials.

The official shirt for competitive swimming and diving is a navy blue and white striped tailored shirt or a navy blue and white striped jersey. A navy blue skirt, shorts or slacks should be worn with the shirt, though white may be substituted for navy blue. Officials who receive fees for officiating are required to wear the official shirt.

The official uniform for synchronized swimming is all white.

The official shirts and emblems are available from The Hanold Company, Sebago Lake, Maine 04075. The company can also provide blazers. When ordering, send dress size and check or money order for correct amount. Anyone may order the official shirt. A current rating card must accompany an individual's order for an emblem; however, it is not necessary to send a rating card when ordering a shirt.

An affiliated board may wish to have a supply of shirts or emblems for distribution to newly rated officials. A quantity order may be placed *only* by the affiliated board chairperson. It is not necessary that the chairperson's rating card be enclosed, but full payment must accompany the order.

Prices: Wash-and-wear shirt, $7.00; knit jersey with zipper neck, $10.50; navy flannel blazer, $35.00; National, State, Local, Apprentice, and Intramural emblems, $1.75.

Shipping Charge: 75 cents per order.

HOW TO ESTABLISH A BOARD OF OFFICIALS

1. Establish the need for an affiliated board by contacting individuals in the area who have current ratings or who are interested in standardizing and raising the level of officiating badminton, basketball, competitive swimming, fencing, gymnastics, softball, synchronized swimming, tennis, track and field, or volleyball in that area.
2. Write to: Jan Boyungs, Secretary of the NAGWS Affiliated Boards of Officials, Central Washington State College, Ellensburg, WA 98926, for a sample copy of an authorized constitution for officials' boards and the *Policies and Procedures Handbook* and application for becoming an affiliated board.
3. At a designated meeting of interested individuals, present plans for forming a board.
   a. Choose a name which will permit expansion of function as need may arise; do not limit title to one sport.
   b. From the group, elect a chairperson, chairperson-elect, secretary, and treasurer.
   c. Form an examining committee of at least three members. If any member has been rated elsewhere, such experience should be helpful; such a rating is not necessary, however, except in basketball and volleyball. (See 4 below.) It is suggested that members of the examining committee be examined and obtain ratings from other affiliated boards whenever possible.
   d. Make plans for drawing up a constitution according to the sample copy received from the Secretary of the NAGWS Affiliated Boards of Officials. Plan to devote some time to the study of the rules and to practice officiating. If possible, secure the assistance of some rated official in each sport for which the Board anticipates giving ratings.
4. Send the completed application form, two copies of the local constitution, and a check for $5 annual dues (made payable to the NAGWS Affiliated Boards of Officials) to the appropriate person indicated by the Secretary. If *basketball or volleyball* ratings are to be given, an affiliated board must send a list of three persons holding a State, National, Honorary National or Examiner rating, and a provisional board must send a list of three persons, one of whom must hold at least a State rating. (Include photostatic copies of current rating cards.) A list of three interested individuals must be sent if the board wishes to give ratings in sports other than basketball or volleyball. If, at the end of two years, a board wishes continued affiliated status in any sport, it will be required to have a minimum of three persons with State, National, Honorary National or Examiner

ratings. (Exception: Gymnastics and Synchronized Swimming.) For continued provisional status, a board will be required to have a minimum of three officials with at least an Apprentice rating. Approval of the application will come from the Past Chairperson of the Affiliated Boards of Officials who will request that examination packets be sent to your Affiliated Board Chairperson for all sports in which your Board is authorized to give ratings. The process of accepting an application for affiliation of a new Board and of requesting that the proper examination packets be sent ordinarily takes several weeks. Prospective Boards, therefore, should file for affiliation at least a month before they wish to hold rating sessions.

5. Administer Form A of the National Theoretical Examination. Form B of the National Theoretical Examination may be administered to those who did not pass Form A. The Intramural Examination may only be given to those candidates pursuing Intramural or Apprentice ratings. Once the Intramural Examination has been administered, the candidate forfeits the option to take either Form A or Form B.
6. To cover expenses involved in the construction and evaluation of written examinations, boards should charge a fee each time an individual takes a written examination. The Affiliated Boards of Officials Treasurer must receive 50 cents for each written examination given by a board. Board fees can exceed 50 cents per test in order to cover operating expenses.
7. Conduct practice sessions in rating officials. All persons on the examining committee who have not previously rated officials should have a minimum of three practice sessions prior to actually rating. Secure the assistance of a rated official in these practice sessions if at all possible.
8. Give practical examinations to individuals who pass the written examination. (Note minimum number of raters required to give various ratings on page 74.)
9. Request appropriate rating cards from the NAGWS National Office for distribution to those who pass the theoretical and practical examination.
10. Send lists of approved officials to schools and other organizations in the area. This notice should indicate the fees for officiating and should give the name, address, rating, and telephone number of each official.
11. Keep accurate lists of all persons receiving ratings. Forward these lists to the chairpersons of the Examinations and Ratings Committees in those sports in which your Board was authorized to give ratings.

INFORMATION REGARDING SYNCHRONIZED SWIMMING OFFICIALS RATING

NAGWS synchronized swimming rules and techniques of officiating are based on the use of official AAU synchronized swimming rules, with a few modifications. Schools and colleges interested in such competition need not have their meets sanctioned by AAU unless they so desire.

The *Official Synchronized Swimming Handbook*, which contains the rules, is available for $2.00 from the Amateur Athletic Union, AAU House, 3400 W. 86th St., Indianapolis, IN 46268.

The AAU rules are changed yearly, but the *Aquatics Guide* is printed once every two years; therefore, these articles (Study Questions and Techniques of Officiating Synchronized Swimming) will not always be up-to-date. The AAU *Synchronized Swimming Handbook* is available about February 1 of each year.

For Boards wishing to start a synchronized swimming rating for the first time, the chairperson of an Affiliated Board should write to the chairperson of the Synchronized Swimming Examinations and Ratings Committee: Anne Winter, Univ. of Wisconsin – LaCrosse, LaCrosse, WI 54601.

This letter should include the names, addresses, and qualifications of three persons interested in synchronized swimming. After being examined by the Board chairman, these three persons, as a group, become the initial Synchronized Swimming Examining Committee for the Affiliated Board it represents.

The synchronized swimming rating will be good for two years. The following levels and standards are minimums for each category. The lowest score would determine the highest rating which could be obtained.

	Theoretical	*Practical*
National	90%	85%
Regional	80%	75%
Local	70%	65%

Synchronized Swimming Study Questions 1975-1976

PREPARED BY THE
SYNCHRONIZED SWIMMING EXAMINATIONS
AND RATINGS COMMITTEE

Multiple Choice. Select the *one* best answer.

1. In figure competition, Mary rotates 45° more than a listed 180° spin on a Barracuda, spinning 180°. What is the referee's decision?
   a. 0-failed figure c. Reduce score for individual figure by 1/3
   b. 1-point penalty d. Legal, no referee's penalty
2. Which of the following routine events is *not* listed as part of the novice class of competition in NAGWS meets?
   a. Solo c. Trio
   b. Duet d. Team
3. In figure competition, which class of competition in NAGWS rules has only required figures and no optional figures?
   a. Novice c. Senior
   b. Junior d. None of the above
4. In figure competition, a Dolpholina is announced for Mary's optional figure, but she executes a Dolphin, Foot First, Submarine. What is the referee's decision?
   a. 0-failed figure c. Reduce score for individual figure by 1/3
   b. 1-point penalty d. No referee's penalty
5. In routine competition, a team routine lasts 4½ minutes. What is the referee's decision?
   a. 1-point penalty c. 5-point penalty
   b. 3-point penalty d. No referee's penalty
6. In figure competition, if a competitor's execution of a kip is unsatisfactory with unsteady body positions and weak control, the judges' awards would tend to be in which category?
   a. 5 – 6-1/2 b. 3 – 4-1/2 c. 1/2 – 2-1/2 d. 0
7. In judging the content of a team routine, which part of the construction of the routine is given the most weight?
   a. Creative action c. Difficulty
   b. Fluidity d. Variety
8. In the beginning of the Albatross, the body is rolled onto the face before the head reaches what point of the circle?
   a. 1/8 point c. 1/3 point
   b. 1/4 point d. 1/2 point

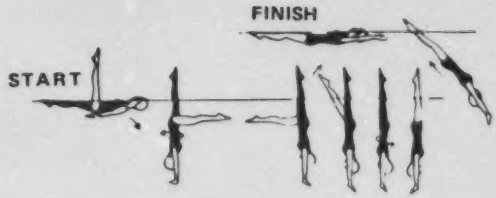
9. In figure competition, Judy received the following judges' awards for an Aurora, open 180 degrees, difficulty 2.1: 8.5, 8.0, 8.0, 8.5, 8.0, 8.5, 8.5, 8.0, 8.5. What are her score points for this optional stunt?
   a. 41.5 b. 74.5 c. 87.15 d. 121.80
10. In judging the content of a routine, how much weight is given to synchronization in solo and in duet – team routines?
   a. Solo: 1 and duet – team: 3
   b. Solo: 1 and duet – team: 4
   c. Solo: 2 and duet – team: 3
   d. Solo: 2 and duet – team: 4
11. Which of the following is true in regards to how NAGWS rules on routine competition differ from AAU rules?
   a. NAGWS rules do not have the 5 required figures in routine competition.
   b. AAU rules do not have the 5 required figures in routine competition.
   c. Figure competition scores are *not* included in the total routine scores in NAGWS rules.
   d. Both a and c above are true.
12. In the Flamingo position, what part of the non-ballet leg is placed opposite the vertical leg?
   a. Foot of bent leg c. Mid-calf of bent leg
   b. Ankle of bent leg d. Knee of bent leg
13. In routine competition, the judges' executions awards for a duet are as follows: 7.8, 7.6, 7.3, 6.9, 7.3, 7.5, 7.7.
   What are the competitors' score points for the execution award in this duet?
   a. 52.1 b. 40.32 c. 37.4 d. 22.4
14. The Albatross is listed in which figure category?
   a. Ballet leg group c. Somersault group
   b. Dolphin group d. Diverse group
15. In NAGWS group or championship meets, how many points are awarded for 1st and 2nd places in figure competition?
   a. 1st: 11 2nd: 9 c. 1st: 8 2nd: 6
   b. 1st: 9 2nd: 7 d. 1st: 7 2nd: 6
16. To which official(s) do competitors report when called prior to an event?
   a. Clerk-of-Course c. Scorers
   b. Referee d. Judges
17. In the Ballet Leg Roll, single, the body is submerged no lower than what part of the ballet leg before the body rotates sideways?
   a. Knee c. Ankle
   b. Mid-calf d. Ballet leg is completely submerged

18. When is the spin started on a Barracuda, spinning 180°?
    a. When water level is between ankle and knee
    b. When water level is at least to knees
    c. At the height of vertical thrust
    d. Anytime before heels drop below water line.
19. Which of the following basic body positions is *not* used in the execution of the Subalina?
    a. Crane
    b. Front Pike
    c. Vertical
    d. Back Layout
20. In National Championships, how many judges should be used in routine competition events?
    a. 3 b. 5 c. 7 d. 9

Figure Identification:*

21.

22.



23.

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24.

START

25.

ANSWERS AND RULE REFERENCES

Answers	*Rule Reference**
1. D	VI, VIII
2. A	*II
3. C	*IV
4. A	VIII
5. D	V, VIII, *IV
6. B	VI
7. C	VI
8. B	XVI
9. C	VII
10. B	VI
11. D	V, VII, *III, *IV, *T. of O. Methods of Grading
12. C	XV
13. D	IV, *T. of O. Methods of Grading
14. B	XIII
15. D	*VI
16. A	III
17. C	XVI
18. C	XV, XVI
19. D	XVI
20. C	V, VII
21. Kip	XVI
22. Crane	XVI
23. Swordfish	XVI
24. Subilarc	XVI
25. Walkover, Front	XVI

*Rule references with an asterisk in front denote *NAGWS Aquatics Guide*. Other rule references are in the AAU Synchronized Swimming Handbook.

Inquiries concerning the synchronized swimming study questions or examinations should be addressed to the Chairperson of the Synchronized Swimming Examinations and Ratings Committee: Anne J. Winter, University of Wisconsin-LaCrosse, LaCrosse 54601.

Techniques of Officiating Synchronized Swimming

Prepared by the
SYNCHRONIZED SWIMMING PRINCIPLES
AND TECHNIQUES OF OFFICIATING COMMITTEE

The following descriptions of techniques for synchronized swimming officials are intended to summarize the officiating procedures as included in the AAU rules. It is important, therefore, that both sources be consulted for a complete understanding of officiating responsibilities.

NOTE: Sections which have been reworded or clarified are designated by a check (√). Changes in techniques have been indicated by shading.

EQUIPMENT

Provided by the official:

1. NAGWS *Aquatics Guide* and *Official AAU Synchronized Swimming Handbook*
2. Clipboard and pencil
3. Whistle (needed only by referee)
4. Cap and/or dark glasses if the Meet is held outdoors
5. The official shirt with white shorts or skirt is the uniform for National Synchronized Swimming Officials. All other officials shall wear a white shirt and white shorts or a white dress.

Provided by the organization holding the competition under the direction of the meet manager:

1. Entry forms which must include information regarding the following:
   a. Pool dimensions with specific reference to the depth of the water, water level below deck, position of diving boards, ladders, a cross section drawing of the pool, etc.
   b. Markings on bottoms and sides of pool
   c. Type of lighting
   d. Position of audience with reference to pool
   e. Open space for entrance and exit
   f. Type of sound equipment available
   g. Medical examination requirements
2. Adequate markings on bottom and/or sides of pool for figure competition.
3. Equipment for the reproduction of accompaniment, including an underwater speaker(s).

4. Public address system.
5. Large scoreboard (chalkboard).
6. Numbers for drawing for swim order.
7. Stopwatch for each timekeeper (3).
8. A means of recording and a visible signaling of awards (flash cards) for judges.
9. Award stand for first, second, and third place winners.
10. An American flag and a recording of our National Anthem. (Optional)

PREMEET PROCEDURES COMPLETED BY ORGANIZATION HOLDING COMPETITION

1. Process entry forms and routine sheets upon receipt from the competitor, and notify the referee of any irregularities. This will include checking the number of groups and degrees of difficulty of figures, checking routine sheets, and separating the figure and routine sheets for officials.
2. Prepare lists or entries, checking entry fees, doctors' certificates, etc.
3. Provide a list of meet officials for the referee; worksheets for each event (i.e., contestants' names and their team affiliations); and a master scoresheet.
4. Provide figure-competition and routine-competition judges with folders which hold forms to record scores, order of appearance of competitors, methods of grading (summary), scratch paper, pencils, etc.
5. Publicize the event in campus paper, community paper, etc.
6. Obtain NAGWS sanction.

OFFICIALS

The officials shall consist of the following:

1. Referee
2. Vice referee
3. Clerk of course (2)
4. Figure competition judges (9 or 18) preferably
5. Routine competition judges (7)
6. Scorers (3 or more)
7. Announcers (2)
8. Timers (3)
9. Readers (one for referee and one for vice referee)
10. Sound center manager and underwater sound monitor
11. Meet manager

12. Press steward, typist
13. Runners (2)

Where an insufficient number of rated officials is available, the positions of lesser responsibility may be filled by students or staff who have received some training for their specific duties.

SELECTION OF JUDGES AND REFEREE

1. The judges for national competition shall be chosen by secret ballot from eligible judges of a current accredited list.
2. Each participating group shall cast 1 secret ballot for the judges for competition. The order of selection of judges shall be for teams, trios, duets, solos.
3. Each participating group shall have one vote in the secret ballot selection of judges for figure competition.
4. The judges panel for the specific event shall include no more than two judges from a single group, school, or college.
5. Each participating group shall have 1 vote in the secret ballot selection of referee and vice referee.

DUTIES OF OFFICIALS

REFEREE

1. Shall have full jurisdiction over the meet; shall enforce all rules and decisions governing the meet; and shall decide all questions relating to the actual conduct of the meet, the final settlement of which is not otherwise assigned by said rules.
2. Shall penalize competitor(s) for any violation of the rules.
3. Shall be given a list of the officials and shall assign each official a particular duty, being certain that each assigned official understands the responsibility as indicated by the rules. The referee shall have the authority to change any assignments of duty.
4. Shall have the authority to interfere in a competition at any state to ensure that the rules are observed, and shall have the power to call off or postpone to a future date any event even though the same has started, if in the referee's judgment the competition cannot be conducted or completed in a satisfactory manner and in fairness to the competitors. At the discretion of the governing committee such postponed events can be conducted (between the competitors who reported on the first date) at a future date as though the competition had never been started.
5. Shall determine that the contestants are ready, and shall signal by blowing a whistle.

6. Shall check (with the assistance of the vice referee and 2 readers) the performance of the contestants against their submitted sheets. Referee and vice referee confer on any questions of infraction of rule against competitor. The referee, after judges' awards have been recorded, shall instruct the scoring table of decision and shall record penalties. The vice referee shall advise the competitor(s) of the infraction.

Refer to *AAU Handbook* for Referee's Penalties.

VICE REFEREE

1. Shall carry out duties as assigned by the referee.

CLERK OF COURSE

1. Shall obtain the order of draw and ascertain that all competitors in a given flight are in readiness.
2. In Figure Competition, the Clerk-of-Course shall notify each flight of the order of performance and the sequence of figures to be performed. Failure of a competitor to report to the Clerk-of-Course at the starting time shall be reported immediately to the referee.

JUDGES

√ When possible, the same judges should officiate for both the semifinals and finals and should maintain their same respective positions throughout an event. In emergencies, the referee is authorized to assign alternate judges from the accredited list.

Each judge shall be provided with a means of recording and a visible signaling of awards.

No judge shall communicate with another individual while competition is in progress.

1. Figure Competition

Seven (or nine) judges of figure competition shall be placed, when possible, in elevated positions in such locations as to have a profile view of the competitors (approximately 12 feet from the pool edge).

They shall judge the competitor from the sound of a whistle (which follows an announcement of the contestant's name and affiliation, the figure and its degree of difficulty) to the completion of the figure. Upon the signal for simultaneous flashing of awards, the judges shall visibly show their scores (to be read orally by the announcer).

2. Routine Competition

Each judge in routine competition shall be provided with a *runner.* Judges of routine competition shall be placed in elevated positions, when possible, on more than one side of the pool.

At the completion of each routine, each of the judges shall record both the execution and the content grades and shall hand the recorded awards to the *runner.* When the referee has determined that each of the *runners* has received the recorded awards, the referee shall then signal for the simultaneous flashing, first of the execution awards and then of the content awards by the judges.

Each judge in routine competition shall be provided with a [illegible] in order to critique the routine.

METHODS OF GRADING
(Judges' Responsibilities)

1. Figure Competition

The judges' awards for execution shall be flashed simultaneously and announced immediately after each figure, on signal from the referee.

In the event of a balk or false start, the judges shall not take this into consideration, but shall grade the final performed figure as though there has been no balk. The referee will instruct the scorer to record the appropriate penalty.

Breakdown of Figure Competition Scoring

1. Design – 5 Points
   a. Horizontal body position
   b. Vertical body position
   c. Circle
   d. Back pike position
   e. Front pike position
   f. Tuck position
   g. Ballet leg position
   h. Flamingo position
   i. Crane position (fishtail)
   j. Split position
   k. Knight position
2. Control
   a. Full body extension
   b. Smooth transitions within the figure, constant speed of action
   c. Compactness of front and back tucks and back pikes
   d. Confident, seemingly effortless execution

e. Proper elevation of the body in relation to the surface of the water

f. Performance of figure in a relative [illegible] other as called for in [illegible]

Figure Scoring

Excellent . . . . . 9 – 10
Design: Ballet leg* perpendicular to surface of the water, horizontal leg at surface – near perfect body positions.
Control: Effortless, near perfection

Good . . . . . 7 – 8½
Design: Between the satisfactory and excellent categories
Control: Between the satisfactory and excellent categories

Satisfactory . . . . . 5 – 6½
√ Design: Average. Horizontal and vertical lines slightly off horizontal and perpendicular, respectively
√ Control: Average

Unsatisfactory . . . . . 3 – 4½
Design: Errors in every part of the execution
Control: Weak and unsteady

Deficient . . . . . ½ – 2½
Design: Recognizable but with major deficiencies throughout. Body in semisitting position knees bent, knee of horizontal leg flexed, foot depressed.
Control: Very poor throughout

Failed 0
Unrecognizable as listed figure or figure performed other than listed.

2. Solo, Duet, and Team Competition (Routines)

Execution represents all the elements included in the total routine, as herewith listed: Standard and/or hybrid figures, swimming strokes, and propulsion techniques. These are graded from a standpoint of perfection.

Content includes:

Synchronization – one with the other and with the accompaniment.

Construction of Routines – creative action, fluidity, difficulty, variety.

Judges shall award grades from 0 to 10, with one-tenth point variations.

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*Ballet leg example listed throughout.

Breakdown of Content Scoring:	*Solo*	*Duet – Team*
1. Synchronization	1	4
2. Construction		
a. creative action	2	1
b. fluidity	2	1
c. difficulty	4	3
d. variety	1	1

Breakdown of Execution Scoring:

Excellent	9 –10
Good	7 – 8.9
Satisfactory	5 – 6.9
Unsatisfactory	3 – 4.9
Deficient	0.1 – 2.9
Failed	0

SCORERS

1. Shall, individually, record the grades and make the necessary computations to obtain the final scores. The written score shall be the official award.
2. The total score of the routine shall be the sum of the scores for execution of the routine, content of the routine, and the team bonus points, if any, less the Referee's penalties. Figure competition scores are not included in the total routine score.
3. Figure Competition
   a. Record individual awards, each time in the same consecutive order, on a scoresheet.
   b. Cancel the two highest and two lowest awards. If five or seven judges are used, cancel only the one highest and one lowest award. If three judges are used, there shall be no cancellation.
   c. Add the remaining awards and multiply the sum by the degree of difficulty of the figure.
   d. Follow this same procedure for each of the figures.
   e. Add the scores for the individual figures for each competitor, individually, and divide by ten. This quotient is the individual's figure score.
   f. If either five or three judges are used, multiply the individual's figure score by 5/3. If nine or seven judges are used, omit this step.
4. Routine Competition
   a. Execution score
      1) Record the individual awards, each time in the same consecutive order, on a scoresheet.

2) Cancel the two highest and two lowest awards. If five judges are used, cancel only the one highest and the one lowest award. If three judges are used, there shall be no cancellation.
3) Add the remaining awards.
4) This procedure gives the score for execution of the routine.

b. Content
1) Record the individual awards, each time in the same consecutive order, on a scoresheet.
2) Cancel the two highest and two lowest awards. If five judges are used, cancel only the one highest and one lowest award. If three judges are used, there shall be no cancellation.
3) Add the remaining scores for content.
4) This procedure gives the score for content of the routine.

5. Bonus points for team routines

√ In the case of team competition, whether preliminary, semifinal or final events, one-half point shall be added to the total score for each additional competitor over four on a team.

6. Scoring systems for dual meet competition

In dual meet competition, each school or college may enter a total of 6 routines with no more than 2 routines in each class of competition. Scoring shall be as follows:
Teams – 8 for winner; 0 for loser
Trios – 7 for winners; 4 for second place; 2 for third place
Duets – 7 for winner; 4 for second place; 2 for third place
Solos – 5 for winner; 3 for second place; 1 for third place
Figures – 7 for winners; 4 for second place; 2 for third place

Places	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Team	14	10	8	6	4	3	1
Trio	11	9	7	5	3	2	1
Duet	9	7	5	4	3	2	1
Solo	8	6	5	4	3	2	1
Figures*	7	6	5	4	3	2	1

*Used if figures are used in computation for team trophy.

ANNOUNCERS

1. Shall make only such announcements as are authorized by the referee.
2. In the figure and routine competition, shall announce the number of the competitor(s) and the figure to be performed or the title of the routine.
3. Shall announce the judges; award in sequence in both figure and routine competition.
4. In routine competition, after the scores have been given, shall announce the name(s) and affiliation of the swimmer(s).

SOUND CENTER MANAGER

1. Shall be responsible for properly presenting the accompaniment for each routine.
2. Shall obtain the order of draw and arrange the accompaniment accordingly.

TIMERS

1. Shall check the overall time of the routine as well as that of the deck movements.
2. Shall record the times on the master scoresheet. If the times of 2 watches agree, that shall be the official time. Should the times of all 3 watches differ the intermediate time shall be the official time.
3. If the time is in excess of the limit in either or both of the categories, shall so inform the referee.

READERS

1. Shall perform duties as assigned by the referee.

UNDERWATER SOUND MONITOR

1. Shall test for sound underwater during the accompaniment test prior to each routine, and shall notify the referee of the results of his test, except that when a monitor-type sound system is used, a test for sound underwater will be made prior to the start of the competition and following every seventh routine.

PRESS STEWARD

1. Shall obtain from the clerk-of-course and the scorers the names of all competitors in each event, and shall keep the press thoroughly informed on all details of the competition during the meet.

RUNNERS

1. Shall deliver score forms as directed by the referee.

MEET MANAGER

1. Shall be responsible for all premeet requirements as listed in the rules.

Questions concerning officiating techniques in synchronized swimming should be directed to:

HOLLY SZABO
Univ. of Vermont
Burlington 05401

SAMPLE*

SYNCHRONIZED SWIMMING SCORESHEET: FIGURE COMPETITION

Name: Ruth Ann Smith

Representing: Lion High School

City and State: Lincoln, Indiana

Type meet: Group meet

Where held: Memphis, Ohio

		Order
Solo	X	12
Duet		Place
Team	X	3

Date: May 5, 1975

	Figure No.	Figure Name	Judges Awards 1	2	3	4	5	6	7	8	9	Total Minus hi-los	Deg. of Diff.	Score Points
R 1	104	Ballet Leg Roll, Single	7.5	6	7	6.5	7.5	6.5	8	7.5	7.5	36.0	1.7	61.20
R 2	421	Walkover, Back	7.5	8	7.5	8	6.5	7	7	6.5	7.5	36.5	1.6	58.40
R 3	314	Somer-Sub	6	5.5	6	6	6.5	6.5	5.5	6	6	30.0	1.6	48.00
0 1	203	Contra-Crane	6	5.5	5	6	5.5	5.5	6	5	6	28.5	2.1	59.85
0 2	218	Dolph-alina	5.5	5	4.5	5.5	5	5	5.5	4.5	5.5	26.0	2.1	54.60
0 3	103	Ballet Legs, Double	7.5	8	7.5	8	6.5	7	7	6.5	7.5	36.5	1.8	65.70

Description of Penalties:

Balk on Figure No. 314

Subtotal:	347.75
Penalties:	16.00
Total:	33.18

Referee: Joan Green

Scorer: Sally Brown

Sig. of Contestant: Ruth Ann Smith Age: 15

* Refer to current AAU Handbook for update.

SAMPLE

ROUTINE SCORESHEET FOR SYNCHRONIZED SWIMMING COMPETITION

Team name: Lions		Solo	Order
Representing: Lion High School		Duet	7
Title: "Doctor Doolittle"		Trio	Place
Type meet: Group meet		Team X	5
Where held: Memphis, Ohio	Date: 5-5-75		

Team Contestants Names:	Description of Penalties:
1. Ruth Ann Smith	Failed to end routine in water
2. Barbara Brown	
3. Mary Horn	
4. Susan Green	
5. Margaret Grass	Deck Time:
6. Kathy Flower	Overall Time:
7.	Sign. of Coach:
8.	Referee: Joan Swim
Alt: Lynn Apple	Scorer: Sally Drown

Judges No.	1	2	3	4	5	6	7	Score
Exec. Award	6	6.5	7	7	6.5	6	7	20.0
Style Award	5.5	6	6.5	6.5	6	5.5	6.5	18.5

Subtotal	38.5
Penalties	1.0
Bonus Pts.	1.0
Preliminary Total	38.5

Judges No.	1	2	3	4	5	6	7	Score
Exec. Award	6.5	7.5	7	6.5	6.5	7	7	20.5
Style Award	6	6.5	6.5	7	6	6	7	19.0

Subtotal	39.5
Penalties	1.0
Bonus Pts.	1.0
Final Total	39.5

Swimming Study Questions
1975–1977

REVISED BY THE SWIMMING EXAMINATIONS AND RATING COMMITTEE

1. Which of the following is the correct lane assignment for the second fastest swimmer when qualifying times are submitted?
   a. Left-center lane in a pool with an even number of lanes
   b. Second lane left-of-center in a pool with an even number of lanes
   c. Second lane right-of-center in a pool with an even number of lanes
   d. All the lane positions are drawn by lot.
2. Following a legal breaststroke turn and push-off from the wall when may the swimmer begin a second stroke?
   a. Not before the extended hands break the surface of the water
   b. Not before the head breaks the surface of the water.
   c. Not before the swimmer slows to her normal swimming speed
   d. At any time
3. Which is true of the maximum number of events in which a contestant may participate during dual or triangular meets?
   a. Four individual events and one relay
   b. Three individual events and one relay
   c. Four events
   d. Five events
4. For a championship meet, which of the following would be included as members of the Meet Committee?
   a. Meet Director, Chief Timer, Diving Referee
   b. Diving Referee, Clerk of Course, Starter
   c. Stroke and/or Turn Judge, Diving Referee, Swimming Referee
   d. Meet Director, Diving Referee, Swimming Referee
5. The visiting team fails to arrive for a scheduled dual meet. What numerical score is recorded for the forfeited meet?
   a. 6-0 c. 11-0
   b. 15-0 d. 12-0
6. How shall the order of diving be determined in a championship meet?
   a. By alphabetical order
   b. By the order in which the diving entries are turned in

c. By the Swimming Meet Committee at a determined time prior to the meet
d. By lot at a public drawing prior to the meet

7. What is the procedure if the host school confirms in writing the program of events less than two weeks prior to the meet date?
   a. The host school is given a five point penalty.
   b. The meet is postponed for two weeks.
   c. The long distance program is swum.
   d. The short distance program is swum.
8. The first swimmer in a relay may set a record for the distance of her lap under which condition?
   a. If an automatic timing device is available to show the contestant's split time
   b. If all three watches assigned to her lane are equipped with a split hand
   c. If written notice of a record attempt is submitted to the Swimming Referee prior to the event
   d. If the distance to be swum is measured in meters
9. What score would a diving judge award for a satisfactory dive?
   a. 7½ points
   b. 4½ points
   c. 5½ points
   d. 6½ points
10. After an individual event, one watch shows 27.5; the second, 28.0; the third, 28.4; what is the official time?
    a. 28.4
    b. 28.0
    c. 28.2
    d. 27.5
11. A swimmer performing the butterfly has made her final arm pull into the turn. Which of the following would be *illegal*?
    a. Drops the head below the normal, flat surface of the water before touching
    b. Drops one shoulder from the horizontal or breast position before touching
    c. Touches with one hand above the water level and the other hand below
    d. Misjudges the distance to the wall and takes a quick arm recovery underwater
12. In a championship meet with timed finals a contestant participated in five individual events in one day. What is the procedure?
    a. The contestant is disqualified from the last event in which she participated.
    b. The contestant is disqualified from all events in which she participated.
    c. The contestant is disqualified from the first event in which she participated.
    d. The contestant is not penalized.

13. Which of the following is an assigned duty of the Clerk of Course?
    a. To sign the official scoresheet
    b. To determine the official order of finish for each event
    c. To organize contestants for each event
    d. To check all entry forms for the legal number of contestants for each team in each event
14. During an intercollegiate triangular meet the following places were recorded in the 200-yard medley relay. Team A, First Place; Team C, Second Place; Team B, Third Place. Which is true of the scores for the event?
    a. Team A has six points.
    b. Team A has seven points.
    c. Team B has four points.
    d. Team C has four points.
15. After qualifying sixteenth in the preliminary round of diving, the competitor sustains a head injury and is unable to compete in the semifinals. What is the procedure?
    a. The diver in seventeenth place moves up to the semifinals.
    b. The competition continues with 15 contestants.
    c. The preliminaries are run again.
    d. Those divers with the 12 highest scores move directly to the finals.
16. In executing a backstroke turn, which of the following would result in a disqualification?
    a. Failure to touch with both hands
    b. Failure to touch with the hand, head or arm
    c. Failure to touch above the surface of the water
    d. Failure to touch with the head
17. Which official signals for the recall rope to be dropped if there has been a false start?
    a. Stroke and/or Turn Judge
    b. Announcer
    c. Diving Referee
    d. Swimming Referee
18. In a dual meet, three of the four contestants entered in an individual event withdraw. What is the procedure?
    a. Fourth contestant is awarded first place and points without competing.
    b. Fourth contestant is awarded first place and 2½ points.
    c. Fourth contestant must compete regardless of the number of competitors.
    d. Event is cancelled, no points awarded.
19. Which is true of the preliminary diving round in championship meets?

a. Three required dives must be performed.
b. Two required dives and three optional dives must be performed.
c. The preliminaries are followed by the finals.
d. One required dive may be repeated as an optional dive.

20. Which of the following correctly applies to lap counting in the 500- or 1,000-yard freestyle event?
a. Each swimmer may supplement her visual lap counter with a verbal count.
b. The host school shall provide each swimmer with counting personnel.
c. Each swimmer must provide her own counting personnel not to exceed two counters per swimmer.
d. All counting must be done from a position on the same side of the pool as the start.

21. In which situation would the Diving Judge rather than the Referee determine the penalty points?
a. The diver, in making the approach, takes two steps and a hurdle.
b. The knees separate on a back somersault in the tuck position.
c. A back somersault in the pike position is executed rather than the tuck as announced.
d. The diver, in executing a back somersault, fails to get the hands back to her side as she enters the water.

22. In a group meet, using the ballot system, the following numerical totals were reported for the 200-yard freestyle relay. Team A, 12; Team B, 3; Team C, 12; Team D, 5; Team E, 6; Team F, 9. (Scoring: 32, 36, 24, 22, 20, 18). Which is true for the scores for the event?
a. Teams A and C each have 20 points.
b. Teams A and C each have 19 points.
c. Teams A and C each have 10 points.
d. Teams A and C each have 12 points.

23. Which of the following dives should be listed in the "free" position?
a. Forward somersault, ½ twist
b. Forward dive, ½ twist
c. Inward dive, ½ twist
d. Reverse dive, ½ twist

24. How are assignments made for a preliminary event with three heats when seeding method is used?
a. Fastest swimmer is placed in the first heat, the second fastest in the second heat, and the third fastest in the third heat with the placement order continuing in this pattern.

b. Fastest swimmer is placed in the third heat, the second fastest in the second heat, and the third fastest in the first heat with the placement continuing in this pattern.
c. Heats are reserved for groups of swimmers as follows: Heat #1, swimmers with fastest times; Heat #2, swimmers with next fastest times; Heat #3, swimmers with slowest times.
d. Heats are reserved for groups of swimmers as follows: Heat #1, swimmers with slowest times; Heat #2, swimmers with middle times; Heat #3, swimmers with fastest times.

ANSWERS AND RULE REFERENCES

Answers	*Rule Reference*
1. A	5:2,C1
2. B	4:2,A6(a)
3. B	3:3,A
4. D	8:2,B
5. C	9:1,B
6. D	7:2,A
7. D	2:1,A2
8. A	10:2(a)
9. C	9:7
10. B	5:5, A2
11. D	4:2,B6(a)
12. A	3:3,C
13. C	8:10, A;T. of O.–Clerk of Course
14. D	9:2
15. A	7:3,F
16. B	4:2,C2
17. D	8:3,B9; T. of O.–Swimming Referee
18. C	9:5,B
19. B	7:3,A1
20. A	5:7,A
21. B	8:12,C2; 8:11
22. B	5:6, A1(e)
23. A	6:3,A4
24. B	5:1,D2

Inquiries concerning these study questions should be directed to the Swimming Examinations and Ratings Committee Chairperson, Deborah J. Parramore, Department of Physical Education, Columbia College, Columbia, SC 29203.

Techniques for Officiating Swimming and Diving

Revised by the
SWIMMING PRINCIPLES AND
TECHNIQUES OF OFFICIATING COMMITTEE

The following descriptions for swimming officials are intended to supplement the official rules. It is important, therefore, that both sources be consulted for a complete understanding of officiating responsibilities.

Note: Sections which have been reworded or clarified are designated by a check (√). Changes in techniques have been indicated by shading.

GENERAL PROCEDURE

1. When requested to officiate, verify or request the following:
   a. Date, time, and location of the meet.
   b. Name and phone number of the meet director.
   c. Number of officials who will be working.
   d. Type of meet and number of teams entered.
   e. Copy of all information sent to participating schools.
2. On the day of the meet:
   a. Arrive at least 30 minutes before the meet is to start or before the coaches' session is to be held.
   b. Check any last-minute changes or details that need clarification.
   c. Introduce yourself to the coaches.

COSTUME AND EQUIPMENT

Costume

1. The official shirt with white shorts or skirt is the uniform for rated swimming officials. All other swimming officials shall wear a white shirt and white shorts. A navy blue blazer may complete the uniform.
2. White tennis shoes and socks or rubber-soled shower sandals may be worn.

Equipment

Provided by the official:
1. *NAGWS Aquatics Guide*

2. Clipboard and pencil
3. Whistle
4. Cap and/or dark glasses if the meet is held outdoors

Provided by the meet director:

1. Pistol and blank cartridges
2. Stopwatch for each timekeeper
3. Forms for the referee and clerk of course, for the timekeepers and lane judges, and for the stroke judge(s), to be used for assigning swimmers and divers to places and recording the results of each heat of each event
4. Worksheets for each event and a master scoresheet
5. Diving flash cards
6. Large scoreboard (chalkboard)
7. Numbers for drawing for lanes and diving order
8. Public address system or megaphone
9. Rope for recall
10. Backstroke flags
11. Visual counters for individual events longer than 200 yards.
12. Starting blocks that meet rule specifications.
13. Racing lane lines that are firmly anchored at each end.
14. A competent operator for automatic or semi-automatic timing devices if these are used.
15. Scoring tables.
16. Space for the clerk of course to set up heats in group meets.
17. Chairs for timers.

Note: Award stand for 1st, 2nd, and 3rd place winners, photographer from campus paper, mimeograph paper for quick distribution of final results, an American flag, and a recording of our National Anthem should also be on hand for swimming meets.

DUTIES OF THE MEET DIRECTOR

1. Establish the date, time, and location of the meet.
2. Prepare an announcement for participating schools and include the following information:
   a. Indicate that NAGWS rules will be used and clearly specify any exceptions that will be made.
   b. Indicate the location and length of the pool, the number of lanes, the height of the diving board(s), and the water depth under the board(s).
   c. List the official order of events and the distance for each event.
   d. Establish qualifying times if this procedure is to be used.

e. For group meets, enclose duplicate entry sheets and indicate the deadline date and time that entries must be postmarked and address for returning entries.

3. Seed the entries with the referee for large meets following Rule 5, and prepare heat sheets for officials, coaches, swimmers, and spectators.
4. Be sure that all equipment necessary to conduct the meet is available and in proper working order.
5. For large meets, supply paper and duplicating machines and have clerical help to cut stencils as soon as preliminary results are available. A copy of the results should be available to the coaches within one hour after the completion of the day's events.
6. Check with the referee on any questions that arise in the process of setting up the meet.
7. Secure a sufficient number of qualified officials to conduct the meet plus alternate timers and judges if automatic timing devices are not used.
8. Send the referee all of the pre-meet information that is sent to the coaches.
9. Provide entry boxes for championship meets.
10. Provide rooms for coaches' and officials' meetings prior to the meet.

DUTIES OF OFFICIALS

Swimming Referee

The referee shall have final power to make decisions on all matters during the course of the meet, and no decisions shall be announced until the referee has authorized them.

Preliminary duties

1. Check each entry for the legal number of contestants for each team in each event and for the legal number of participations for each contestant.
2. Make certain that exhibition swimmers are not seeded into heats in place of regular entries. Exhibition swimmers should be seeded independently of regular entries.
3. After approving the entry lists, give the names of all entries for each event to the clerk of course, recorder, and announcer.

Note: The recorder must be prepared to revise entries during the progress of the meet, if substitution is permitted prior to the time when swimmers are turned over to the starter.

4. Make certain that there is a full complement of officials to handle the meet. When an insufficient number of officials is

available, appoint the rated officials to act in more than one capacity.

5. Appoint and instruct all officials regarding their duties as covered by the rules and techniques of officiating.

Note: Where an insufficient number of rated officials is available, the positions of lesser responsibility may be filled by students or staff who have received some training for their specific duties. Where finish judges, timekeepers, etc. have been appointed prior to the meet, it is suggested that the referee honor such appointments.

6. Supervise drawing lane and heat assignments.
7. Check to be sure that all required equipment is provided.
8. Complete the following duties or delegate them to the chief timer in large meets:
   a. Examine all watches to be sure each is properly wound and synchronized. Bar from use any watch which is consistently off when tested by several timers.
   b. Assign three timers to each working lane, and designate one as head timer of that lane.
   c. Instruct each timer to start her watch instantly on the flash of the starter's gun and to stop her watch simultaneously with the touch at the finish. If a watch does not start or operate properly, the timer should raise her hand immediately to attract an alternate timer.
   d. Timers shall not serve as finish judges in the same race.
9. Before the first event, explain to swimmers, coaches, and officials what starting procedure and what recall signal will be used.

Duties during the meet

1. At the beginning of each event perform the following procedures or defer them to the starter for the entire meet:
   a. Blow whistle to signal for quiet for the start.
   b. Instruct the swimmers concerning the distance to be covered, name of the event, and stroke(s) to be used and, where applicable, in what order. Explain the signal for gun lap in individual races longer than 200 yards.
   c. Call, "Judges and timers ready?" When the officials have indicated they are ready, turn the swimmers over to the starter.
2. Stand on the opposite side of the pool from the starter. Assist the starter in deciding which contestant(s) shall be charged with a false start. Give consent by silence to the starter's call of a false start.
3. Immediately recall the swimmers if an automatic or semi-automatic timing device fails to operate.

4. Disqualify a contestant or relay team for two false starts in a given heat.
5. Assist the stroke judge in detecting violations of the rules. Report in writing to the official recorder any disqualified contestants or teams.
6. Notify in writing the disqualified swimmer or her coach of the nature of the infraction, immediately following the event.
7. Resolve all conflicting decisions among officials.
8. Schedule and conduct swim-offs when necessary.

Duties following the meet

1. Examine the worksheets and master scoresheet kept by the recorder. Check the computation of points awarded to each team. Sign the master scoresheet.
2. If a NAGWS record is set, be sure the forms are completed properly.
3. Thank the officials for their assistance.

Starter

The starter shall have full control of the contestants from the time they have been turned over to her by the referee until the race is properly underway.

1. Stand in a position seen easily by the competitors and the timekeepers, within ten feet of the starting edge of the pool. During the freestyle, breastroke, and butterfly stroke starts, stand on the side deck of the pool; during the backstroke start, stand to one side on the end deck of the pool.
2. Wait for acknowledgment of readiness of the officials from the referee before giving the command, "Take your marks." Hold the cocked pistol overhead, preferably in the hand toward the timekeepers so that they clearly see the flash.
3. Get all swimmers onto as fair a start as possible. Starts should not be tricky in timing, nor should they be given in a regular, rhythmical pattern. The starter shall hold the starting signal until all swimmers have assumed stationary positions.
4. On a false start, order the recall rope dropped as soon as the pistol or whistle signal is given for the recall. Release other contestants with the command "Stand-up" when a false start has occurred. Two false starts disqualify a contestant or relay team. The referee will officially disqualify contestants.
5. Immediately recall the contestants if an automatic or semi-automatic timing device fails to operate.
6. Start a race without a contestant, if, in the opinion of the starter, a contestant is deliberately delaying the start of a race.

7. When using a pistol the starter must have at least three good cartridges in her pistol before starting a race. A snap cap or accidental shot shall not result in a false start being charged against any swimmer.
8. In case the pistol is not properly discharged, all contestants shall be recalled by the starter firing a second pistol shot or blowing a whistle.
9. When the pistol is properly discharged and any contestant or contestants shall have obtained an unfair advantage at the start, all contestants shall be recalled by the starter firing a pistol shot or blowing a whistle, and the starter shall indicate the contestant or contestants who shall be charged with a false start.
10. In individual events longer than 200 yards, discharge the pistol when the leading swimmer has two lengths plus five yards to swim.

Recorder

The recorder shall be provided with worksheets for each event and a master scoresheet for the meet by the meet director. Worksheets shall contain an accurate listing of all contestants and their team affiliations.

1. After each race, as the written reports from the lane judge and any disqualifications from the referee are received, enter the results on the worksheets.
2. Compile the ballot and note the placing of the contestants and award points in accordance with the official rules (Rule 9).
3. As the final results of each event are determined, prepare a statement for the announcer. This statement shall include the name of the winner of each place, her team affiliation, and point(s) awarded, and the total number of points won by each team in the event.
4. Enter the final results of each event on the master scoresheet.
5. The duties of the recorder during the diving events are fully described in the official rules (Rule 9, Sec. 8). Compute and record diving results. Sheets must be checked and signed by the diving referee.
6. At the end of the meet, assist the referee in checking the worksheets and master scoresheet. Sign the master scoresheet.

Stroke and Turn Judge

The stroke and turn judge is responsible, with the referee, for noting infractions of the rules during the speed events. She should take her position on the opposite side of the pool from the referee.

DUAL MEET BALLOT

Event: 100 Yard Freestyle Event No. 16 WEBER UN. vs. JONES UN.

Lane	1	2	3	4	5
NAME	ADAMS	BROWN	CHARLES	DAVIS	
SCHOOL	WEBER	JONES	WEBER	JONES	
PLACE – JUDGE A	3	1	2	4	
PLACE – JUDGE B	3	1	4	2	
PLACE – TIMER	2	1	3	3	
TOTAL	8	3	9	9	
OFFICIAL FINISH	2	1	3	3	
OFFICIAL TIME	1:17.6	:56.8	1:17.7	1:17.7	

SCORESHEET FOR DUAL MEET

Team Weber

Event	Entries	Pl.	Time	Pts.
200 Yard Medley relay	Adams	1	2:12	7
	Alworth			
	Alexander			
	Anderton			7
200 Yard Freestyle	Alton	4	2:54	3
	Ahrends	2	2:22	10
200 Yard Ind. Medley	Alexis	1	2:20	5,2
	Adams	2	2:26	17

Final Score _____

Referee _____

Team Jones

Entries	Pl.	Time	Pts.
Brown	2	2:20	0
Bowles			
Bolton			
Brooks			0
Bingham	1	2:15	5,1
Burns	3	2:36	6
Bolton	2	2:26	2
Burger	disqual		8

Final Score _____

Scorer _____

Date _____

1. At the start of the race, take a position about one-quarter of the way down the side of the pool to check violations following the start. This applies particularly to races involving the breaststroke and butterfly stroke.
2. Move down the pool with the swimmers to observe lane stroke legality.
3. Reach the end of the pool before the leading swimmer comes in for her turn to determine that all regulations regarding turns are observed.
4. Return to the finish line to check all swimmers for conformity to rules regarding the touch at the finish and adherence to the form of the stroke until the touch is made.
5. During relay races take a position so that any illegal starts after the original start can be seen.
6. When an infraction occurs, immediately raise one hand overhead using fingers to indicate the lane numbers in which the violation occurred.
7. Keep a written record of rules violations in the lanes, the turns and the finishes, listing the lane number, lap number (in relays) and the violations in accord with Rule 4. A duplicate copy of a disqualification should be sent to the swimmer's coach immediately following the violation.
8. Immediately after the finish of each race, give the written report to the referee.

Note: Although the referee assists whenever possible in noting infractions of the rules, the task confronting the stroke and turn judge cannot be managed with top efficiency by one person. There should be a judge for each lane if possible. It is suggested that one or two of the experienced officials not involved with duties during the race be used as assistants. For example, the starter and diving judges can conveniently be assigned. They report violations to the stroke judge, who includes them in her report to the referee. Judges should be absolutely positive a fault has been made before disqualifying a swimmer.

Announcer

The announcer shall be provided by the meet director with worksheets for each event. Worksheets shall contain an accurate listing of all contestants and their team affiliations.

1. Before each swimming event, announce the event, the heat, and the name and team affiliation of each swimmer in each lane.
2. As the contestants are assembling for one event, announce the next event as a warning to the next swimmers to be "on deck."
3. Promptly after the finish of each preliminary heat, and following

NAME SUSAN SMITH

SCHOOL JONES UNIVERSITY 1 m. X DIVING SCORESHEET

DATE FEBRUARY 10 3 m. _____ ORDER _____

	No.	Dive	Position	Value	Judges Awards					Total	Score	
1	101	Forward dive	Layout	1.4	6	5½	5½			17	23	30
2	201	Back dive	Layout	1.6	4	5	4½			13½	21	60
											45	40
3	401	Inward dive	Pike	1.3	3	3½	4			10½	13	65
											59	05

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DISQUALIFICATIONS

EVENT_____ HEAT_____LANE_____

BUTTERFLY:	STROKE:	Unsym. Recvry.
	KICK:	Scissors, flut
	TURN-FINISH:	Hand, unsym.
		Turn No. _____
BACK:	LEFT BACK:	Start, turn, finish
		Turn No. _____
BREASTSTROKE:	START-TURN:	2 stroke under
	STROKE:	Unsym. shoulder
	KICK:	Scissor
	HEAD:	Under surface
	TURN-FINISH:	One hand
		Turn No. _____
FREESTYLE:	TURN:	No touch
		Turn No. _____

INTERFERENCE **FALSE STARTS**

OTHER:_____

_____
Initial

the final heat of each event, announce the results as provided by the referee for the scorer and announcer.

4. In the diving competition, before each dive announce the name of the contestant, the name of the dive, the position in which the

dive is to be executed, and the degree of difficulty. If a forward standing take-off is to be used, this shall also be announced.

5. On completion of the dive, announce the points awarded by each judge and the total points earned for the dive.
6. Make any other announcements requested by the referee, lane judge, clerk of course, or meet director.

Note: A good announcer can make the meet interesting and thus popularize the sport by establishing close audience contact through good voice, clear enunciation, and a little "showmanship."

Timers

The timers shall be responsible for the official recording of all times (including those of disqualified contestants).

1. The referee shall designate one person in each lane as head timer. The head timer shall perform the following duties:
   a. Be sure all timers in her lane are reading their watches properly.
   √b. Act as take-off judge during relays. She shall station herself in such a position that she can hold her hand in contact with the longest toe of each contestant (after the first swimmer) and at the same time see the end of the pool. She shall judge whether the feet of the swimmer lost contact with the starting surface before the preceding swimmer touched the end of the pool.

      The penalty for an illegal start shall be disqualification. When a disqualification occurs, the take-off judge shall immediately raise one hand overhead and use the fingers to indicate the lane number. The judge shall complete a written report for the referee and make note of the swimmer's lane and lap number.
2. At the conclusion of each heat or final event, report to the recorder. All reports shall include the event, heat number, lane number of the swimmer, swimmer's name, and the time. When watches are used record each of the three times with the official time recorded separately in a space provided. When automatic or semi-automatic devices are used record the time in the space provided for official time following procedures of Rule 5, Sec. 6.
3. Signal timekeepers to clear their watches.
4. All timers shall follow these procedures:
   a. Report 30 minutes before the meet is scheduled to begin.
   b. Obtain timer cards, pencil, list of heats or program from the meet director.
   c. Check the accuracy of the watch with the head timers in the assigned lane.

TIMER'S CARD

EVENT:_____ HEAT:_____

SWIMMER'S NAME:_____ LANE:_____

TIMES:_____

_____

_____

OFFICIAL TIME:_____

d. Take a position directly behind the assigned lane at a spot designated either by a line or chairs.
e. Keep eyes on the starter during the start. Make no anticipatory arm or body movements in the process of stopping or starting the watch. Start the watch on the flash of the gun. Use only finger pressure on the watch stem at the actual start and finish of the race.
f. After the race has been started, step forward and lean over to observe the touch at the finish. Do not bend down as this obstructs the view of the judges to that side.
g. Show the watch to the assigned head timer for checking the accuracy of the reading of the watch.
h. Do not click watch back until so directed by the head timer as there may be a discrepancy or a record may have been set.
i. Do not take split times unless this is an assigned duty. Do not tell your time to the swimmer or anyone until your watch has been read and checked.

Lane Judges

The lane judges shall determine the order in which the contestants finish. They shall *not* serve as timers in the same race.

1. In lane judging, follow procedures in Rule 8, Sec. 9.

LANE JUDGE'S CARD

EVENT:_____ HEAT:_____

SWIMMER'S NAME:_____ LANE:_____

PLACE:_____

SIGNATURE:_____

2. Take positions on each side of the pool in line with the finish. Judges must have an unobstructed view of the course and the finish line.
3. Watch the finish line from the time the leading swimmer enters the last lap of the race. Judges should not follow swimmers to the finish, but should watch the wall for the touch.
4. At the conclusion of each race, give a written report of the choice of finish to the recorder. Report shall include place, event, heat number, lane number and the swimmer's name, and be signed or initialed by the judge.

Clerk of Course

The Clerk of the course shall –

1. Obtain the names of all contestants for each event from the referee; at least five minutes before the event shall be started the clerk of course must give the swimmers notice to appear at the starting mark.
2. If necessary, have the contestants draw by lot for starting positions, after which they shall be turned over to the referee.
3. Be responsible for placing the contestants immediately behind the starting line at the proper time for each event.

Diving Referee

The referee shall have final power to make decisions on all matters during the course of the diving event(s), and no decisions shall be announced until authorized by the diving referee.

Preliminary Duties

1. Draw the required dive on deck in the presence of the divers and coaches, if required by Rule 8, Sec. 11A.
2. Obtain all diving entry forms. Check each entry for correct and complete listing of all dives. Consult with diver(s) to resolve any problems.
3. Assign the judges to their positions in accord with Rule 8, Sec. 11.
4. Supervise the draw for order of diving position in triangular, group, and championship meets.
5. Instruct the scorer and announcer of their duties as covered by the Rules and Techniques of Officiating.

Duties During the Meet

1. Signal the judges by whistle to flash their awards.
2. Disqualify any diver not complying with Rule 8, Sec. 11B.

3. Declare a failed dive and refrain from calling for the judges' awards if the diver executed a dive other than that announced (a different numbered dive, not just a different position).
4. Determine if a balk, false start, or failed dive has occurred, and apply appropriate penalty in accord with Rule 8, Sec. 11B, 1f.
5. Instruct the scorer to deduct two points from each of the judges' awards if there is a violation of Rule 8, Sec. 11B, 1e.
6. At the end of the contest, examine the diving scoresheets and confirm the final results by signature on the meet scoresheet.

Diving Judges

1. Diving judges shall sit where placed by the referee.
2. They shall judge each dive in accord with Rule 8, Section 12C.

ADDITIONAL SUGGESTIONS

A full complement of officials will facilitate the most efficient management of a meet. However, with careful planning, it is possible to carry out all official duties if the rated and better trained officials act in more than one capacity. For example, the referee can assume the duties of the diving referee. The starter and inspector of turns and lanes can double as diving judge. When a fourth experienced official is not available to assume the duties of the third diving judge, the referee may act in dual capacities of diving referee and judge.

Note: Any forms shown in the section on Officiating Techniques are only suggestive – they may be adapted to suit your needs.

Questions concerning officiating techniques in competitive swimming and diving should be directed to:

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Official Synchronized Swimming Rules for Girls and Women

MARY JO RUGGIERI
JEAN LUNDHOLM

These rules and procedures are designed for the conduct of interscholastic and intercollegiate synchronized swimming meets. The following rules are intended to summarize the rules included in the AAU rules. It is important, therefore, that both sources be consulted for a complete understanding of the rules.

Rule 1. Pool Facilities and Equipment

Section 1. Specifications and Equipment

A. Pool Specifications
   1. The competition other than a national championship must be held in a pool having an area of at least 25 x 35 feet, not less than 9 feet in depth. National championships must be held in a pool having an area of at least 25 x 40 feet, of not less than 9 feet in depth. None of the competitive area shall be less than 3 feet in depth. Water must be of sufficient clarity for the bottom of the pool to be clearly visible.

B. Equipment

Provided by the official:

1. *NAGWS Aquatics Guide* and *Official AAU Synchronized Swimming Handbook*
2. Clipboard and pencil
3. Whistle (needed only by referee)
4. Cap and/or dark glasses if the meet is held outdoors
5. The official shirt with white shorts or skirt is the uniform for national synchronized swimming officials. All other officials shall wear a white shirt and white shorts or a white dress.

The organization holding the competition is responsible for meeting the following requirements:

1. Providing equipment, record player, tape recorder and/or cassette, for the reproduction of accompaniment including an underwater speaker.
2. The entry information for all synchronized swimming competitions must include the following:
   a. Pool dimensions with specific reference to the depth of the water, water level below deck, position of diving boards, ladders, a cross-section drawing of the pool, etc.

b. Marking on bottoms and sides of pool.
c. Type of lighting.
d. Position of audience with reference to pool.
e. Open space for entrance and exit.
f. Type of sound equipment available.
g. Alternate facilities if required.
h. Provide official entry form.

Premeet procedures completed by organization holding competition.

1. Process entry forms and routine sheets upon receipt from the competitor, and notify the referee of any irregularities. This will include checking the number of groups and degrees of difficulty of figures, checking routine sheets and separating the figure and routine sheets for officials.
2. Prepare lists or entries, checking entry fees, doctors' certificates, etc.
3. Provide a list of meet officials for the referee; worksheets for each event (i.e., contestants' names and their team affiliations); and a master scoresheet.
4. Provide figure-competition and routine-competition judges with folders which hold forms to record scores, order of appearance of competitors, methods of grading (summary), scratch paper, pencils, etc.
5. Publicize the event in campus paper, community paper, etc.
6. Provide qualified judges with AAU or NAGWS ratings.
   a. Figure competition (minimum of 3, maximum of 9)
   b. Routine competition (minimum of 5, maximum of 7)
   c. It is recommended for national and regional competition that the maximum number of judges be used.
7. Send out meet information at least four weeks prior to the competition.
8. Make sure all entries are postmarked by the deadline (suggested – one week prior to competition).
9. Process entry forms, figure and routine sheets, upon receipt from the competing schools and notify the competitor or her coach of any irregularities.
10. Prepare lists of entries and entry fees.
11. Provide adequate markings on bottom and on sides of pool for figure competition.

Rule 2. Program of Events

Section 1. Classes of Competition

A. Novice
   1. An athlete shall be held to be a novice in each of the events

until she shall have won a first, second, or third place in competition in that event.

2. For purposes of defining eligibility in the novice class, synchronized swimming events shall be as follows:
   a. Figure
   b. Duet
   c. Trio
   d. Team

B. Junior
   1. An athlete shall be held to be a Junior in each of the events until she shall have won a first, second, or third place in competition in that event.
   2. Four purposes of defining eligibility in the Junior class, synchronized swimming events shall be as follows:
      a. Figure
      b. Solo
      c. Duet
      d. Trio
      e. Team

C. Senior
   1. An athlete shall be held to be a Senior in each of the events considered Senior level events.
   2. For purposes of defining eligibility in the Senior class, synchronized swimming events shall be as follows:
      a. Figure
      b. Solo
      c. Duet
      d. Trio
      e. Team

Rule 3. Contestants

Section 1. Eligibility

A. All undergraduate girls and women students officially enrolled on a full-time basis and meeting their respective institutions' eligibility requirements shall be eligible to compete for their school.
B. All participants shall have amateur status.
C. Transfer students shall be immediately eligible.

Rule 4. Description of Events

Section 1. Figure Competition

A. Figure competition will be run according to the AAU rules with the following modifications:

B. Figures for Senior competition (groups to be rotated on a yearly basis at the beginning of the season).

1.	111 Eiffel Tower	1.7
	307c Heron, spinning 180°	1.9
	109b Catalina, full twist	2.1
	204 Dolphin	1.6
	411 Pirouette	1.9
	414 Sub-Crane	2.1
2.	418 Swordfish, straight leg	1.7
	309a Porpoise, ½ twist	1.8
	402 Crane	2.2
	316 Subalina	1.8
	219 Knight	1.9
	113d Flamingo, spinning 360°	2.1
3.	104 Ballet leg roll, single	1.7
	406a Kip, ½ twist	1.8
	405c Hightower, spinning 180°	2.2
	110 Catalina, reverse	1.7
	211 Dolphin, foot first, bent knee	1.7
	318e Subilarc, open 180°	2.1
4.	107 Ballet leg submarine, double	1.9
	205 Dolphin, bent knee	1.7
	301 Aurora	1.9
	114d Flamingo, bent knee, spinning 360°	1.9
	417 Swordfish	1.7
	218 Dolpholina	2.1
5.	421 Walkover, back	1.6
	301 Barracuda	
	203 Contra-Crane	2.1
	415 Swordalina	1.7
	406d Kip, spinning 360°	1.9
	304 e Gaviata, open 180°	2.1
6.	112 Eiffel Walk	1.7
	201 Albatross	1.9
	403 Elevator	2.0
	315 Somer-sub, back pike somersault	1.6
	309a Porpoise, spinning 360°	1.9
	202 Castle	2.2

C. Figures for Junior Competition (groups to be rotated on a yearly basis at the beginning of season).

1.	101 Ballet leg, single	1.5
	205 Dolphin, bent knee	1.7
	309 Porpoise	1.7
	417 Swordfish	1.7

2.	106 Ballet leg submarine, single	1.6
	210 Dolphin, foot first	1.7
	312 Somersault, front pike	1.4
	406 Kip	1.7
3.	111 Eiffel Tower	1.7
	422 Walkover, front	1.5
	211 Dolphin, foot first, bent knee	1.7
	310 Somersault, back pike	1.4

Two optionals will be performed in addition to the listed figure. These must be of 1.9 degree of difficulty or below and both must be from different categories.

D. Figures for Novice Competition. (Desired group to be chosen at the beginning of each season.)
   1. For the Regional meet the Novice figures should be chosen at the annual coaches' association meeting.
   2. The degree of difficulty for optional novice figures should be 1.7 and below and both from different categories.

E. In Regional competition, each school may enter a total of 9 participants with no more than 3 in each category. For National competition, each school may enter a total of 6 participants.

Section 2. Routine Competition

1. The competition shall be at 3 levels: Novice, Junior, and Senior. These are free routines with no figure or degree of difficulty requirements.
2. In a regional or state meet, when a competitor places 1st, 2nd, or 3rd in a Junior or Novice event, she must move up to the next class, in that particular meet in succeeding years.
3. A swimmer may only enter three routines and each must be in separate events.
4. For regional competition, each school will be allowed to enter a total of 6 routines with no more than 2 routines in any one event.
5. A routine presented for competition may be used 2 consecutive years.
6. Judges will assume positions on the sides of the pool separated from each other.
7. An accompaniment test will be given to determine proper speed and volume as per AAU guidelines.
8. Upon signal from the referee the routine and judging will begin.
9. It is suggested that no routine should be longer than 5 minutes with a 30-second deck limit.

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10. Before the referee's signal to begin, the title and order of the routine will be announced.
11. At the completion of the routine, the announcer will indicate the category to be scored and the referee will signal for judges to flash their scores simultaneously. Scores will be flashed in the order of execution first and content second.
12. Each judge will be given a recorder for the purpose of critiquing routines.
13. Alternates should be listed for each routine on entry sheets: 1 for trio, 1 for duet, 2 for teams. If the alternate swims it will be counted as one of her events.
14. For trio or team events, if 50% or less of the group remains intact, they can continue to compete at the same level.
15. In Novice and Junior events, a swimmer may move to a level above but not below her level.
16. In the case of team competition, one-half point shall be added to the total score for each additional competitor over four on a team (up to 8 maximum).

Rule 5. Officials and their Duties

Section 1. Officials

A. The officials shall consist of the following:
   1. Referee
   2. Vice referee
   3. Clerk of course (2)
   4. Figure competition judges (9 or 18) preferably
   5. Routine competition judges (7)
   6. Scorers (3 or more)
   7. Announcers (2)
   8. Timers (3)
   9. Readers (one for referee and one for vice referee)
   10. Sound center manager and underwater sound monitor
   11. Meet manager
   12. Press steward, typist
   13. Runners (2)

B. Where an insufficient number of rated officials is available, the positions of lesser responsibility may be filled by students or staff who have received some training for their specific duties.

Section 2. Selection of Judges and Referee

A. The judges for national competition shall be chosen by secret ballot from eligible judges of a current accredited list.
B. Each participating group in any event is entitled to one vote for judges in that event (solo, duet, team).

C. Each participating group shall have one vote in the secret ballot selection of judges for figure competition.
D. Each participating group shall have one vote in the secret ballot selection of referee and vice referee.

Section 3. Duties of Officials

A. Referee
1. Shall have full jurisdiction over the meet; shall enforce all rules and decisions governing the meet; and shall decide all questions relating to the actual conduct of the meet, the final settlement of which is not otherwise assigned by said rules.
2. Shall penalize competitor(s) for any violations of the rules.
3. Shall be given a list of the officials and shall assign each his particular duty, being certain that each assigned official understands his responsibility as indicated by the rules. He shall have the authority to change any assignments of duty.
4. Shall have the authority to interfere in a competition at any stage to ensure that the rules are observed, and shall have the power to call off or postpone to a future date any event even though the same has started, if in his judgment the competition cannot be conducted or completed in a satisfactory manner and in fairness to the competitors. At the discretion of the governing committee such postponed events can be conducted (between the competitors who reported on the first date) at a future date as though the competition had never been started.
5. Shall determine that the contestants are ready, and shall signal by blowing a whistle.
6. Shall check (with the assistance of the vice referee and two readers) the performance of the contestants against their submitted sheets. Referee and vice referee confer on any questions of infraction of rule against competitor. The referee, after judges' awards have been recorded, shall instruct the scoring table of decision and shall record penalties. The vice referee shall advise the competitor(s) of the infraction.

Refer to AAU Handbook for Referee's Penalties.

B. Vice Referee
1. Shall carry out duties as assigned by the referee.

C. Clerk of Course
1. Shall obtain the order of draw and ascertain that all competitors in a given flight are in readiness.
2. In figure competition, the clerk-of-course shall notify each

flight of the order of performance and the sequence of figures to be performed. Failure of a competitor to report to the clerk-of-course at the starting time shall be reported immediately to the referee.

D. Scorers
1. Shall, individually, record the grades and make the necessary computations to obtain the final scores. The written score shall be the official award.
2. Total score shall be the sum of the scores for figures, execution of the routine, style of the routine, and the team bonus points, if any, less the referee's penalties.
   a. Figure Competition
      1. Record individual awards, each time in the same consecutive order, on a scoresheet.
      2. Cancel the two highest and two lowest awards. If five or seven judges are used, cancel only the one highest and one lowest award. If three judges are used, there shall be no cancellation.
      3. Add the remaining awards and multiply the sum by the degree of difficulty of the figure.
      4. Follow this same procedure for each of the figures.
      5. Add the scores for the individual figures for each competitor, individually, and divide by ten. This quotient is the individual's figure score.
      6. If either five or three judges are used, multiply the individual's stunt score by 1.66. If nine or seven judges are used, omit this step.
      7. In duet and team competition, add the individual figure scores of each member of the routine and divide by the number of competitors in the duet or team. This quotient becomes the duet or team figure score.
   b. Routine Competition
      1. Execution score
         a. Record the individual awards each time in the same consecutive order on a scoresheet.
         b. Cancel the two highest and two lowest awards. If five judges are used, cancel only the one highest and the one lowest award. If three judges are used, there shall be no cancellation.
         c. Add the remaining awards and multiply the sum by the average degree of difficulty of the routine (sum of the difficulty multiplies divided by 5 and carried to the fourth decimal not to exceed 1.8).

d. This procedure gives the score for execution of the routine.

2. Style Score
   a. Records the individual awards, each time in the same consecutive order, on a scoresheet.
   b. Cancel the two highest and two lowest awards. If five judges are used, cancel only the one highest and one lowest award. If three judges are used, there shall be no cancellation.
   c. Add the remaining scores for style. There is no multiplication of the style award.

c. Bonus points for team routines

In the case of team competition, whether preliminary or final events, one-half point shall be added to the total score for each additional competitor over four on a team.

E. Announcers
   1. Shall make only such announcements as are authorized by the referee.
   2. In the figure and routine competition, shall announce the number of the competitor(s) and the figure to be performed or the title of the routine.
   3. Shall announce the judges' awards in sequence in both stunt and routine competition.
   4. In routine competition, after the scores have been given, shall announce the name(s) and affiliation of the swimmer(s).

F. Sound Center Manager
   1. Shall be responsible for properly presenting the accompaniment for each routine.
   2. Shall obtain the order of draw and arrange the accompaniment accordingly.

G. Timers
   1. Shall check the overall time of the routine as well as that of the deck movements.
   2. Shall record the times on the master scoresheet.
   3. If the time is in excess of the limit in either or both of the categories, shall so inform the referee.

H. Readers
   1. Shall perform duties as assigned by the referee.

I. Underwater Sound Monitor
   1. Shall test for sound underwater during the accompaniment test prior to each routine, and shall notify the referee of the results of his test, except that when a monitor-type sound system is used, a test for sound underwater will be

made prior to the start of the competition and following every seventh routine.

J. Press Steward
   1. Shall obtain from the clerk of course and the scorers the names of all competitors in each event, and shall keep the press thoroughly informed on all details of the competition during the meet.

K. Runners
   1. Shall deliver score forms as directed by the referee.

L. Meet Manager
   1. Shall be responsible for all premeet requirements as listed in the rules.

Rule 8. Methods of Grading

Section 1. Figure Competition

Figure competition shall be graded according to the AAU rule book. (Suggest using regulation computation tables).

Section 2. Routine Competition

A. At the completion of each routine, each of the judges shall record both execution and content grades on paper and shall hand this to a runner. When the referee determines that all runners have received their scores, he shall signal for the execution scores to be flashed simultaneously. Upon a second signal from the referee, the content scores shall be flashed simultaneously.

B. Execution represents all the elements included in the total routine as herewith listed:
   Standard and/or hybrid figures, swimming strokes, and propulsive techniques. These are graded from a standpoint of perfection.

C. Content includes:
   Synchronization – one with the other and with the accompaniment
   Construction of Routines
   1. Creative Action (including theme and/or musical interpretation)
   2. Fluidity
   3. Difficulty
   4. Variety

D. Judges shall award grades from 0 to 10, win one-tenth point variation.

E. Breakdown of Content Scoring

	Solo	Duet, Trio, Team
1. Synchronization	1	4
2. Construction		
a. Creative Action	2	1
b. Fluidity	2	1
c. Difficulty	4	3
d. Variety	1	1

F. Breakdown of Execution Scoring Table

Excellent	9-10
Good	7-8.9
Satisfactory	5-6.9
Unsatisfactory	3-4.9
Deficient	0.1-2.9
Failed	0

Rule 7. Methods of Scoring

Section 1. Figure Competition

A. Record the individual awards, each time in the same consecutive order, on a score sheet.

B. If nine judges are used, cancel the two highest and two lowest awards. If five or seven judges are used, cancel only the one highest and one lowest award. If three judges are used, there shall be no cancellation.

C. Add the remaining awards and multiply the sum by the degree of difficulty of the figure.

D. Follow this same procedure for each of the figures.

E. Add the scores for the individual figures for each competitor individually, and divide by 10. This quotient is the individual's Figure Score.

F. If either five or three judges are used, multiply the individual's figure score by 5/3. If nine or seven judges are used, omit this step.

G. Figure scores are not added to routine scores.

Section 2. Routine Competition

A. Record the individual awards, each time in the same consecutive order, on a score sheet.

B. Cancel the two highest and two lowest awards if seven judges are used. If five judges are used, cancel only the one highest and one lowest award. If three judges are used, there shall be no cancellation.

C. Add the remaining awards less any penalties.

D. Total the execution and the content score.

E. Because of the routine being free there is no difficulty multiplication.

F. The total score shall be the sum of the scores for execution and content of the routine and the team bonus points, if any.

Rule 8. Special Regulations

Awards

A. Individual awards (solo and figures) – first through seventh place.
B. Team, duet, trio – first through seventh place.
C. Team trophy – a trophy shall be awarded to the school with the highest combined total score. Suggested second or third place team awards might be smaller trophies or plaques.
D. Suggested awards are medals or charms for any 1st, 2nd, or 3rd place and ribbons for 4th through 7th places.
E. Points

Places	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Team	14	10	8	6	4	3	1
Trio	11	9	7	5	3	2	1
Duet	9	7	5	4	3	2	1
Solo	8	6	5	4	3	2	1
Figures*	7	6	5	4	3	2	1

*Used if figures are used in computation for team trophy

Official Swimming and Diving Rules for Girls and Women

These rules and procedures are designed for the conduct of interscholastic and intercollegiate swim meets.

RULE 1. POOL FACILITIES AND EQUIPMENT

Section 1. Specification and Equipment for Swimming Events

A. Pool Specifications

*1. The pool shall be a minimum of 75 feet long when measured from inside end wall to touchplate.
2. The lanes should be a minimum of 7 feet wide.
3. The depth should be a minimum of 3½ feet.
4. The end walls should be parallel, vertical planes and finished with a non-slip surface. There should be no protrusions on the end wall within 3½ feet of the top.
5. Individual lines at least 12 inches wide should mark the center of each lane on the bottom and end walls of the pool. Lines on the bottom should terminate 5 feet from each end of the pool in a "T" at least 30 inches long and 12 inches wide. Similar "T" lines should mark the end walls.
6. The lanes shall be clearly numbered from right to left as the swimmer stands facing the course.
*7. The water temperature should be between 78 and 80 degrees Fahrenheit for competition. The air temperature at deck level should not be lower than 72 degree Fahrenheit. It is recommended that in separate diving pools the water should be between 82 and 86 degrees Fahrenheit for competition. Special consideration should also be given to heating and ventilation for the comfort of spectators as well as competitors.
*8. The level of the water shall be at the overflow rim of the pool.

B. Equipment Specifications

1. Starting platforms should be provided and are required for championship meets. The top of the platform should be at least 20 inches by 20 inches and must not exceed 30 inches in height above the water surface. The tops may be flat or sloped towards the pool. The slope shall not exceed 10 degrees from horizontal.
2. The starting platform shall be equipped with firm starting

*Asterisk indicates change from previous *Guide*.

grips for backstroke starts. The grips must be flush with the end of the pool.

3. Provision shall be made for backstroke flag lines to be stretched across the racing lines 15 feet from both ends of the pool and approximately 7 feet above the surface of the water. A minimum of 3 triangular pennants, 6 to 12 inches wide and 12 to 18 inches in length of contrasting colors must be suspended 7 feet over each lane.

*4. The hostess school is responsible for providing the backstroke flags lines and having them in proper placement. Failure to comply with this rule shall result in disqualification of the hostess competitors in any event where backstroke is swum.

*5. Tightly stretched and visible floating markers shall define the lateral limits of each lane. It is recommended that these markers be flow-through plastic floats strung end to end with no spacing the entire length of the course. The color of the floats may be either of solid or alternating colors through the middle 45 feet. The remaining 15 feet on each end shall be a solid color and distinguishable from the center section.

*6. A recall rope shall be dropped across the racing lanes in case of a false start. The rope shall be approximately 36 feet from the blocks and suspended at least 4 feet above the water at its lowest point.

7. Visual counters shall be provided by the hostess institution. The counters shall be used within the limits of each lane at the opposite end of the pool from the start. The counters shall have digits 12 inches tall which shall be black on a white background. Each set of counters shall be equipped with one indicator of solid fluorescent orange color, with or without a number, to indicate the final length of each distance event. Failure to comply with this rule shall result in disqualification of the hostess competitors in events where counters are required.

8. Automatic and/or semi-automatic judging and timing devices may be used. An automatic device is one which is started by the starter's pistol or electronic starting device and is stopped when a contestant touches the finish contact pad. The time and place recorded are considered primary information. A semi-automatic device is one which is started by the starter's pistol or a single manual switch and is stopped manually. The results of a semi-automatic device, if used, count as one stopwatch and/or one place judge.

9. A minimum of three timers per lane shall be required for establishing records if fully automatic equipment is not used. The times may be from stopwatches or a combination of stopwatches and semi-automatic device.

Section 2. Specifications and Equipment for Diving Events

A. Pool Specifications

1. The water should be at least 12 feet deep beneath a 1-meter board.
2. Clearance from the side of the boards to the edge of the pool should be at least 10 feet for a 1-meter board and at least 12 feet for a 3-meter board. The distance between the boards should be at least 8 feet.
*3. A water agitating device is recommended; however, another diver or teammate may agitate the water before and during the diver's performance.

B. Equipment Specifications

1. The diving boards shall be 1 meter and 3 meters above the water level at the tip end.
2. The diving board shall be installed so that the board is level though the fulcrum may be moved to varying positions.
3. Each board should be 16 feet long by 20 inches wide with the upper surface of non-skid material.
4. The front end of the board should project at least 6 feet beyond the end of the pool.
5. The fulcrum of the diving board should be easily adjustable between dives.
*6. If a diving board breaks and is unusable, the home team must provide another or the visiting team shall be awarded 8 points for each diving event. No points shall be awarded to the home team.

RULE 2. PROGRAM OF EVENTS

Section 1. Intercollegiate Program

A. Dual and Triangular Meets

*1. Dual and triangular one-day intercollegiate meets shall consist of the short or the long distance program.

Short Distance

1. 200-Yard Medley Relay
2. 200-Yard Freestyle
3. 100- or 200-Yard Individual Medley
4. 50-Yard Backstroke
5. 50-Yard Breaststroke

6. 50-Yard Freestyle
7. 50-Yard Butterfly
8. 1-Meter Diving
9. 100-Yard Butterfly
10. 100-Yard Freestyle
11. 100-Yard Backstroke
12. 500-Yard Freestyle
13. 100-Yard Breaststroke
14. 3-Meter Diving
15. 200-Yard Freestyle Relay

Long Distance

1. 400-Yard Medley Relay
2. 200-Yard Freestyle
3. 200-Yard Individual Medley
4. 50-Yard Backstroke
5. 50-Yard Breaststroke
6. 50-Yard Freestyle
7. 50-Yard Butterfly
8. 1-Meter Diving
9. 200-Yard Butterfly
10. 100-Yard Freestyle
11. 200-Yard Backstroke
12. 1,000- or 500-Yard Freestyle
13. 200-Yard Breaststroke
14. 3-Meter Diving
15. 400-Yard Freestyle Relay

*2. The program shall be confirmed in writing at the time of the contract or at least 2 weeks prior to the meet date. If these provisions have not been made the short distance program shall be swum.

3. In 20-yard pools, the length of the events should be modified to allow for wall finishes.

4. Diving events
   a. In dual meet competition, there shall be finals only. There shall be 6 dives in the competition, 1 required dive (which shall be done first) and 5 optional dives. A separate drawing for the required dives shall be conducted in the presence of divers for both 1-meter and 3-meter from front, back, reverse, inward and twisting groups. After the draw any of the remaining required dives may be included in the list of optional dives. The optional dives must be selected to include one dive from each of the 5 groups, and may be performed in any order of the groups.

*b. When 3-meter diving must be eliminated because either school does not have the standard equipment, Event #8 will become a 1-meter contest to consist of the 5 required dives for each contestant, and Event #14 will become a 1-meter contest of 6 optional dives, 1 from each group with none of the required dives being permitted. Each event is scored separately.

*c. When it is necessary to hold a meet in a pool with less than 10 feet of water under the 1-meter diving board, the visiting coach shall have her choice of diving or substituting a 15-minute rest for the diving event. If there is less than 12 feet of water beneath the 3-meter board, diving may be conducted as in Rule 2, Section 1A,4b at the visiting coach's discretion.

*d. Upon the mutual agreement of the coaches, platform diving may be included as an event and may precede the first relay.

B. Invitational, State and Regional Meet Program

*1. If a 1-day meet is held, either dual meet order of events shall be used and may be conducted as timed finals or preliminaries and finals.

*2. For all other meets, except the National Championships, the order of events shall be decided by the hostess institution or meet committee. All information relative to these meets should be in the hands of all competing institutions at least 2 weeks prior to the contest. It is highly recommended that for 2- and 3-day meets the championship events and procedures be followed.

3. When preliminaries and finals are conducted there should be at least a 2-hour break between sessions.

4. In championship meets the diving competition from each board shall consist of 5 required dives #101, 201, 301, 401, and one each from the twist group 5111, 5211, 5311, 5411 and 6 optional dives, including 1 from each of the 5 groups. The contest shall consist of preliminaries, semi-finals and finals.

C. Recommended Championship Procedural Rules

*1. When there is an entry date deadline, all entries postmarked after said date are considered late entries. Each late entry school shall pay late entry fees as set by the Meet Committee if the school still wants to be officially entered. Late entries shall be accepted for the meet if

they meet the time or degree of difficulty standard and all other official entry procedures and if they pay the school late entry fee plus an additional designated fee for each contestant for each event except relays. When a school whose entry arrives on time wants to make an entry change, a fee for each change shall be paid before the entry box deadline.

*2. If for some reason a school that is entered and paid neglects to drop its entries into the entry box on time, a fee shall be charged and its contestants shall swim in the first heat of each event unseeded.

*D. Recommended List and Order of Events for National Championships

1

200 yd. Medley Relay
500 yd. Freestyle (timed finals)
200 yd. Butterfly
50 yd. Breaststroke
100 yd. Backstroke
100 yd. Freestyle
100 yd. Individual Medley

2

200 yd. Individual Medley
50 yd. Freestyle
200 yd. Backstroke
100 yd. Butterfly
100 yd. Breaststroke
1 Meter Diving
400 yd. Free Relay

3

400 yd. Medley Relay
200 yd. Freestyle
200 yd. Breaststroke
50 yd. Backstroke
50 yd. Butterfly
3 Meter Diving
200 yd. Freestyle

Section 2. Interscholastic Program

A. Dual and Championship Meets
200-Yard Medley Relay

200-Yard Freestyle
200-Yard Individual Medley
50-Yard Freestyle
1-Meter Diving
100-Yard Butterfly
100-Yard Freestyle
500-Yard Freestyle
100-Yard Backstroke
100-Yard Breaststroke
400-Yard Freestyle Relay

B. Diving
1. Dual Meets
The competition shall consist of 6 dives (each a different number.) The draw for the required dive (which shall be done first) shall be done by the diving referee in the presence of the divers before the start of the meet from dives #101, 201, 301, 401 and the twist group (each diver shall select from 5111, 5211, 5311, 5411). After the draw, any of the remaining dives listed above may be included in the list of 5 optional dives. The 5 optional dives must include at least 4 of the 5 groups.
2. Championship Meets
The competition shall consist of the 5 required dives and 6 optional dives, at least 1 of which is chosen from each of the 5 groups. More than 1 optional dive from the same group is not permitted in the preliminaries.

RULE 3. CONTESTANTS

Section 1. General Regulations

*A. Contestants shall be attired in 1-piece suits for all events.
B. No swimmer shall be permitted to wear or use any device to help her speed or buoyancy. Goggles may be worn and rub-down oil may be used if not considered excessive by the swimming referee.

Section 2. Number of Entries per Team

A. Dual Meets
1. Each team shall be allowed the following number of entries in each individual swimming and diving event:
(a) 5 or less lanes – 2 entries per team
(b) 6 or more lanes – 3 entries per team
2. Each team shall be allowed 2 relay entries in all pools.

*B. Double-dual, triangular, triple dual and group meets should be conducted as above depending on the number of lanes available.

C. Championship Meets

1. In individual events, a school may enter any number of contestants who have achieved qualifying times.
2. In relay entries, each school may only enter 1 relay team in each relay event.

Section 3. Number of Entries per Individual

A. Dual or Triangular Meets

A contestant is permitted to compete in a maximum of 4 events of which no more than 3 may be individual events.

B. Group and Championship Meets

1. When there are timed finals a contestant may participate in a maximum of 5 events per day of which no more than 4 may be individual events.
*2. When preliminaries and finals are held daily over 2 or more days, a contestant may participate in 3 events per day, with a maximum of 7 events per meet of which no more than 5 may be individual events.

C. Any swimmer who officially enters or competes in too many events shall be disqualified from the illegal event(s).

RULE 4. DESCRIPTION OF SWIMMING STROKES

Section 1. Starts

*A. Forward start shall be used in all swimming races with the exception of the backstroke events and the first leg of the medley relay. Each contestant shall stand erect with both feet on the starting block in readiness to assume a starting position. Upon the command, "Take your mark," she shall assume any desired position. Should the swimmer so desire she may start from a push-off. The push-off starting position shall be in the water, motionless, with at least 1 hand in contact with the end of the pool. When the starter sees that the contestants are completely motionless, the race with a pistol shot and/or electronic starting device, shall be started.

*B. Backstroke start shall be used for all backstroke events and the first leg of the medley relay. In the backstroke start, each contestant shall line up facing the starting block. Both hands may grasp the grips provided on the starting block or the end of the pool as preferred by the contestant. The feet shall be placed on the end wall. Upon the command, "Take your

mark," the swimmer may assume any desired starting position as long as her hands are on the grips and her feet are in contact with the end of the pool. When the starter sees that the swimmers are completely motionless, she shall start the race with a pistol shot and/or electronic starting device.

C. In relays, the lead-off swimmer shall start with the pistol shot and/or electronic starting device. Each succeeding teammate shall assume the forward start position. She may be in motion, but her feet must be in contact with the starting mark when the preceding swimmer finishes.

D. The command from the starter to "Stand up" shall allow the contestant in the forward start position to stand up or step off the block. In the backstroke, the swimmer shall be relieved from the starting position but must remain in the starting area.

E. Start Infractions

1. All swimmers who leave their marks before the pistol is discharged shall be charged with a false start unless the starter verbally releases them.
2. All swimmers who delay in assuming a motionless position or who do not ever assume a motionless position shall be charged with a false start by the referee or the starter.
*3. Backstroke swimmers who remove their feet from the wall or their hands from the grip or end of the pool shall be charged with a false start.
4. All swimmers who enter the water after the command "Stand up" shall be charged with a false start.
5. Any contestant responsible for an unnecessary delay after the referee's whistle shall be charged with a false start.
6. Any swimmers charged with 2 false starts shall be disqualified and shall not swim the event.
7. If a swimmer leaves the starting block before the previous swimmer of her relay team finishes, the relay team shall be disqualified.
8. The lead-off swimmer may not be interchanged with any teammate after the referee has called the swimmers to the block.
9. An accidental shot shall be no start and no contestant shall be charged with a false start.

Section 2. Swimming Events

A. Breaststroke

1. The breaststroke shall be swum on the surface. Following the start and each turn, 1 arm-pull and 1 leg-kick may be

taken underwater. Some portion of the swimmer's head must break the surface of the water before another stroke is started and remain above the normal, flat surface of the water until the swimmer has taken her final arm-pull into the turn or finish at which time it shall be permissible to drop the head under the water.

2. Both hands shall be extended forward simultaneously on or under the surface of the water and pulled back simultaneously.
3. The body shall be kept perfectly on the breast with both shoulders in the horizontal plane.
4. On the turns and at the finish both hands shall touch the wall simultaneously (not necessarily at the same level). On any length, after the last arm-pull the shoulder may drop. Once a legal touch has been made, the swimmer may turn in any desired manner but shall return to the horizontal prone position before the hands leave the extended position and start the next stroke.
5. The feet shall be drawn up simultaneously, with the knees bent. After the catch, the movement shall continue with a rounded outward sweep of the feet, bringing the legs to full extension behind the body. Up and down movements of the legs in the vertical plane shall be prohibited. Breaking the surface with the feet shall not merit disqualification. All movements of the legs and feet shall be simultaneous and in the same horizontal plane: no sidestroke (scissor kick) movement shall be permitted.
6. Disqualifications for Breaststroke Infractions
   *(a) A swimmer shall be disqualified if a second stroke is initiated before the head breaks the surface of the water on the start or any turn. The instant the hands leave the extended position, a new stroke shall have been started.
   (b) A swimmer shall be disqualified if an illegal kick is used, such as a flutter kick, scissor kick or dolphin kick.
   (c) A swimmer shall be disqualified if she does not touch the wall simultaneously with both hands on any turn or finish.
   (d) A swimmer shall be disqualified if she dips her head below the normal flat surface of the water at any time except after the final arm-pull prior to a turn or finish.
   (e) A swimmer shall be disqualified if she uses an over-water recovery or an alternate arm-pull.

(f) A swimmer shall be disqualified if she initiates a second kick before the head breaks the surface.
(g) A swimmer shall be disqualified if she does not remain on the breast with both shoulders in the horizontal plane except as specified in Section 2A 4 above.
(h) A swimmer also shall be disqualified if she violates any part of Section 2A 1, 2, 3, 4, 5.

B. Butterfly
1. After the start and each subsequent turn the swimmer shall be permitted 1 or more leg kicks but only 1 arm-pull underwater, which must bring her to the surface so that the arms shall be recovered over the water.
2. Both arms shall be brought backward underwater simultaneously and subsequently be recovered forward over the water simultaneously.
3. The body shall be kept perfectly on the breast, with both shoulders in the horizontal plane.
4. On the turns and at the finish, both hands shall touch the wall simultaneously. The hands need not be at the same level. The shoulder may drop after the final arm-pull before the touch on any length. Once the legal touch has been made, the contestant may turn in any desired manner but shall return to a horizontal prone position before the hands leave the extended position and begin the next stroke.
5. All up-and-down movements of both legs and feet shall be made simultaneously using a dolphin kick and shall not be of an alternating nature. No scissor or breaststroke kicking movements shall be used.
6. Butterfly Disqualifications
(a) A swimmer shall be disqualified if she recovers her arms underwater at any time. This shall include the approach to the wall for a turn or finish.
(b) A swimmer shall be disqualified if she uses an alternating leg kick, a scissors kick, a breaststroke kick or any kick but the prescribed one.
(c) A swimmer shall be disqualified if she does not touch the wall simultaneously with both hands on any turn or finish.
(d) A swimmer shall be disqualified if she swims on her side or back.
(e) A swimmer also shall be disqualified if she violates any part of Section 2B 1, 2, 3, 4, 5.

C. Backstroke

1. The swimmer shall push off on her back and continue swimming on her back throughout the race.

*2. A head, hand or arm touch shall be required for each turn and the finish.

*3. The swimmer must not turn her hips over beyond the vertical toward the breast before she has touched the end of the pool for the purpose of turning or for the finish. It shall be permissible to turn over beyond the vertical after the touch for the sole purpose of executing the turn, but the swimmer must have returned past the vertical towards a position on the back before the feet have left the wall.

4. Backstroke Disqualifications

(a) A swimmer shall be disqualified if she turns over past the vertical while swimming.

*(b) A swimmer shall be disqualified if she turns her hip over beyond the vertical before she touches at the turn or before any part of the body touches at the finish or fails to return past the vertical toward the back before the feet have left the wall.

*(c) A swimmer shall be disqualified if she fails to touch the end of the wall with the head, hand or arm at each turn.

(d) A swimmer shall be disqualified if she violates any part of Section 2C 1, 2, 3.

D. Freestyle

1. The crawl stroke is the most common stroke used under freestyle rules. It is a stroke which employs an alternating above water recovery of the arms with an alternating up-and-down kick of the legs.

2. In a freestyle event, any style or combination of styles may be used.

3. The hand touch shall not be required at the turn or finish; the touch shall be sufficient if any part of the body touches the end of the pool.

4. If no touch is made at the turn a contestant shall be disqualified.

E. Individual Medley

1. The swimmer shall swim the prescribed distance in the following order: the first ¼ butterfly; the second ¼ backstroke; the third ¼ breaststroke; and the last ¼ any stroke other than the 3 already mentioned.

2. A swimmer must adhere to the turn and finish rule governing each stroke when applicable. It shall be permissible to drop the shoulder on both the turns and when

approaching the finishing turn on the breaststroke and butterfly portions.

3. Violation of any part of the applicable swimming rules shall result in disqualification.

F. Relays

1. In the Freestyle Relays there shall be 4 competitors on each team. Each shall swim ¼ of the prescribed distance continuously using any desired stroke or combination of strokes.
2. In the Medley Relay there shall be 4 competitors on each team. Each shall swim ¼ of the prescribed distance continuously in the following order: first, backstroke; second, breaststroke; third, butterfly; and fourth, any stroke other than those already mentioned. Rules pertaining to each stroke used shall govern where applicable.
3. No swimmer shall swim more than one distance of any relay. Violation shall result in disqualification.

Section 3. Finish

A. In all swimming races, each swimmer shall have finished her race when she has covered the prescribed distance and any part of her person touches the wall at the end of the pool except as modified by Section 3C.

B. In the breaststroke and butterfly, the swimmer shall comply with the finish requirements for the stroke as defined under the rules for that stroke or be disqualified.

C. If automatic timing and/or judging equipment is used, each swimmer must touch the touchplate at the end of the pool to have finished the race.

D. Violations of any of the above provisions shall result in disqualification.

Section 4. General Regulations

A. Each swimmer shall report promptly as directed, and she shall swim in the heat and lane assigned.

B. No substitution may be made for a contestant disqualified for false starts or in an event in which a disqualification occurs.

C. A swimmer shall be considered to have participated in any event from which she has been disqualified for any rule violation.

D. There shall be no coaching of contestants from the time they are turned over to the starter until the race is finished.

Section 5. Other Disqualifying Infractions

*A. Any contestant not entered in a race who enters the pool in the area in which said race is being conducted before all other swimmers have finished the race may be charged with a false start at the referee's discretion.

*B. A swimmer may be disqualified if after leaving the water at the end of the race she re-enters the water without the approval of the swimming referee, and the referee rules that another contestant was obstructed by the act.

*C. Any swimmer who enters the water before her event without the permission of the referee or the starter may be charged with a false start.

D. A swimmer shall be disqualified if she pushes off the bottom or side of the pool or uses the lane markers to gain additional momentum. She may rest on the side or bottom of the pool without moving toward the finish line.

E. A swimmer who touches another swimmer or impedes her progress shall be disqualified. Should the interference endanger the success of the swimmer fouled, that swimmer may be allowed to compete in a succeeding heat. Should the foul occur in a final event, that event may be rerun.

F. A swimmer shall be disqualified by the referee for violation of any provision in Rule 4.

RULE 5. CONDUCT OF SWIMMING EVENTS

Section 1. Heat Seeding Procedure

A. Procedures

*1. The best times of all entrants shall be submitted on the entry form. Verification of entry times must be presented upon request.

2. These times shall be listed in order by the Meet Director or her appointed representative with the faster swimmer's time first and the slowest swimmer's time last. Submitted times shall be listed and compared exactly as submitted. Swimmers whose submitted times are identical should be assigned relative places in the list by draw. Swimmers with no substituted times shall be placed at the end of the list and assigned relative position by draw.

*B. Qualifying Times for Championship Meets

1. Qualifying times shall have been achieved in a meet conducted under NAGWS Swimming and Diving Rules (or in a certified time trial) after September 1, preceding the meet for which the contestant is qualifying. The

times achieved in the previous AIAW Championship may be used as a qualifying time. In the case of a certified time trial, a gun start shall be used and a statement shall be submitted with the entry blank giving the times of 3 watches and signed by 3 timers, and referee-starter indicating that the time trial was conducted in accordance with NAGWS Swimming and Diving Rules.

2. Relay times may be an aggregate of individual times.
3. If the times were made at an altitude of 5,000 feet or over, a time adjustment may be made in qualifying for the meet as follows: for 200-yard individual events only, subtract 1.2 seconds and use this time on the entry blank; for 400-yard individual events only, subtract 8.0 seconds and use this time on the entry blank. Information relative to the adjustment shall be shown in a separate statement and returned with the official entry blank. The statement shall include name of competitor, event, date of performance, elevation, location, actual time, corrected time, and signature of the coach.

C. Seeding for Timed Finals
1. In all timed final events, the final heat shall be composed of the entries with the fastest seeded times. The entries with the next fastest group of times shall compose the next to the last heat, etc.
2. A full compliment of entries shall be placed in all heats starting with the fastest heat. Whenever this results in less than 3 entries in the first (slowest) heat, the slowest seeded entries in the second heat shall be moved into the first heat so no heat has less than 3 entries.

D. Seeding for Preliminary Events
*1. In 2 heats–the fastest swimmer shall be placed in the second heat, the second fastest swimmer in the first heat, the third fastest shall be placed in the second heat, the fourth fastest in the first heat, etc.
2. In 3 heats–the fastest swimmer shall be placed in the third heat, the second fastest in the second heat, the third fastest in the first heat. The fourth fastest swimmer shall be placed in the third heat, the fifth in the second heat, the sixth in the first heat, the seventh in the third heat, and so on.
3. In 4 heats or more–the *last* 3 heats shall be seeded as described in the preceding paragraph. The heat preceding the last 3 heats shall consist of the next fastest swimmers, the heat preceding the last 4 heats shall consist of the next fastest swimmers, etc.

4. A full compliment of entries shall be placed in all heats starting with the fastest heat. Whenever this results in less than 3 entries in the first (slowest) heat, the slowest seeded entries in the second heat shall be moved into the first heat so no heat has less than 3 entries.

*E. The swimmer may be disqualified from an event if verification of entry times cannot be validated upon request.

Section 2. Lane Assignments

A. In dual meets the visiting team shall have the choice of odd or even lanes. Once made, this choice shall apply to all swimming events on the program.

B. In double dual, triple dual, or triangular meets, lane assignments shall be by lot with teams swimming in lanes 1 and 4, 2 and 5, 3 and 6, and shall apply to all events on the program.

C. In group meets and championship meets when qualifying times have been submitted, the seeding method for lane assignment shall be employed.
   1. In pools with an even number of lanes, the fastest swimmer shall be assigned to the right-center lane (swimmer's right as she faces the pool), the second fastest to the left-center lane and assignment shall continue alternating right and left until all swimmers in the heat are assigned.
   2. In pools with an odd number of lanes, the fastest swimmer shall be assigned to the center lane, the second fastest to the lane right-of-center, the third fastest to the lane left-of-center and assignment shall continue alternating right and left until all swimmers in the heat are assigned.

D. In group meets where qualifying times are not submitted, lane assignment shall be drawn by lot.

E. Change of Lane Assignments
   1. There shall be no trading of heat or lane assignments.
   2. Lane assignments should not change because of scratches unless there are fewer than 4 swimmers remaining in a heat in which case the referee may reassign the swimmers in compliance with seeding procedures.
   3. At the swimming referee's discretion, 2 heats may be consolidated.

Section 3. Procedures for Consolation Finals and Finals

A. The number of lanes in the pool shall determine the number of qualifiers for the finals and the consolation finals. The

fastest swimmers in the order of finish in the preliminaries shall qualify for the finals. The next fastest swimmers in the order of finish in the preliminaries shall qualify for the consolation finals.

*B. Consolation finals shall precede the finals in each swimming event.

*C. A consolation finalist may place and score higher than finalists if her time in the consolation finals is faster than a swimmer in the finals.

D. If primary information from automatic devices is available, it shall be used to determine the qualifiers for final events and for placement within heats.

E. If primary information from an automatic timing device is not available, the ballot system shall be used to determine qualifiers and for placement within heats. Swimmers shall qualify for finals on the basis of their official time; however, in no case shall a swimmer with a faster official time displace another who has finished ahead of her in a heat according to the ballot system.

F. If a situation results in disputed qualification, the following process should be followed:

1. All swimmers having times tied with or within the disputed times shall participate in a swim-off for the unfilled positions. In swim-off heats, lanes shall be decided by lot.
2. A swim-off shall be considered to be part of the total preliminary process of qualifying for the finals.
   Exception: In the case of disqualification in a swim-off, the disqualified swimmer shall be considered to have finished last in the swim-off. In the case of a swim-off for the lowest qualifying position, a disqualified swimmer shall be considered eliminated from the position for which the contestants were swimming. If the disqualifications leave a vacancy for the full compliment of finalists, swim-offs shall be continued among the disqualified swimmers until a full compliment of finalists is assured.

G. A swim-off may be held at any time set by the swimming referee not later than 45 minutes after the last heat of the last event in which any one of these swimmers is competing that session. A swimmer involved in a swim-off shall not be required to swim with less than 25 minutes rest between swim-offs and/or any of her regularly scheduled races.

H. There shall be no trading of lanes or heats.

I. In the event that a swimmer(s) has qualified for the finals, consolation finals, or championship finals, and then with-

draws, is barred, is injured, or ill at the beginning of this session and is unable to compete in the event for which she is qualified, the referee shall fill the event when possible with the next qualified competitor(s).

J. If a swimmer in either the consolation final or final is disqualified, the residual points shall be lost from the meet.

Section 4. Method of Official Entry

A. In DUAL AND TRIANGULAR MEETS the official entry card for each event including diving shall be handed to the swimming referee or an official designated by her at a predetermined place immediately after the announcement of the results of the preceding event. This card shall include: (1) first and last names, (2) lane assignments, or (3) diving order of participants.

B. In GROUP MEETS the deadlines for entries and substitutions shall be determined by the Meet Director and/or the Meet Committee and be included in the information sent to the participating schools.

C. In Championship Meets

1. The official entry cards for the meet shall be presented to the coach or her duly appointed representative. For the entries to be confirmed, the official entry cards shall be deposited in the designated sealed entry box any time prior to the deadline.
2. Individual Entries
   (a) An entrant may submit entry times in as many events as she wishes provided she meets the qualifying standard in each.
   *(b) After the entry deadline no additions, withdrawals or substitutions shall be made except as provided by meet committees or the AIAW Championship Meet Committee.
3. Relay Entries
   (a) All contestants listed on the entry form are eligible to swim on relays.
   (b) Enter the relay time only once on the entry form.
   (c) When the entry card is deposited in the entry box, there shall be a minimum of 4 and a maximum of 8 eligible swimmers listed, any 4 of whom may compete in the preliminary event.
   (d) If the team qualifies for consolation finals or finals in that event, any 4 of the swimmers on the entry card may swim the final event.

(e) Being listed as a relay swimmer on the entry card shall count as an entry whether the swimmer participates in the event or not.

*4. Once officially entered, a contestant shall compete in all heats, swim-offs, semifinals (diving) and finals for which she qualifies. This applies to individuals and relay teams except in the case of disqualification under the false start rule. Failure to compete for any reason, except illness or injury certified by the designated health official shall nullify any previous performance and prohibit any further competition in the meet.

5. The health official shall determine the fitness for competition of contestants in case of illness or injury. When a contestant has been declared unfit for competition, the swimming referee shall permit the contestant to be withdrawn without penalty. If the contestant recovers before the the end of the meet, she may be reinstated in later events under the same conditions.

*6. Entry and Scratch Procedures for Championship Meets

*(a) The entry box which shall be in a permanent location shall be clearly marked and be accessible from 8:00 a.m. until 8:00 p.m. the day preceding the first day's events, and from 8:00 a.m. until one-half hour after the start of the finals on the first and second days of the meet for the second and third days' events. The entry box location and schedule shall be published in all meet materials and be posted on or near the entry box during the meet.

*(b) The Meet Committee/Seeding Committee shall open the entry box and seed the heats and lanes following the entry deadline.

*(c) Coaches may submit corrected, improved entry times for individual swimmers or relay teams before the entry deadline. The improved time shall be written on the entry card and initiated by the coach or the coach's appointed representative before dropping the entry card into the entry box. New times shall be established under the same requirements as the original qualifying times (Rule 5, Section 1 B 1).

Section 5. The Official Time Shall be Determined by One of the Following Methods:

A. When human and/or semi-automatic timing devices are used:

1. Watches or semi-automatic timing devices shall be started by hand on flash of the starter's gun and shall be stopped simultaneously with the finish.

2. Three watches recording to tenths shall be used on each lane and shall be read to the slower tenth. Semi-automatic timing equipment shall be read to the maximum decimal reading.
   (a) If 2 or 3 times agree, that time shall be official.
   (b) If all 3 times disagree, the intermediate time shall be official.
   (c) If only 2 times are available, the average of the 2 times, computed and rounded to the slower tenth, shall be official.
3. Times from an alternate watch or timing device may substitute for an assigned timer only in the event of failure of a watch or semi-automatic device, or its operator.

B. When completely automatic equipment is used:
1. The completely automatic equipment shall be started automatically by the starter's gun and stopped by the swimmer activating the finish pad and shall provide both timing and judging information.
2. Completely automatic equipment (primary information) will be backed up by semi-automatic timing devices or watches (secondary information).
3. A primary time, if available, shall be the official time (to maximal decimal reading).
4. The official time for a swimmer not having a primary time shall be the secondary time determined according to Section 5 A 2.

Section 6. Order of Finish

A. The order of finish when all swimmers compete simultaneously shall be determined by one of the following methods:
1. In dual, group or championship meets when lane judging is used, whether strictly human or semi-automatic, the ballot system shall be used.
   (a) Each working lane shall be assigned 3 ballot values, 1 for each of the 2 lane judges and 1 for the place according to the official time.
   (b) Ballot values for timers are assigned as follows: 1 point for the fastest time, 2 points for second fastest time, etc. Identical times are assigned equal ballot values, and the next fastest time is assigned the next ballot value.
   (c) Judges' values are awarded 1 point for the first place selection by a judge, 2 points for the second place selection, etc.

(d) Disqualified contestants are then eliminated.
(e) The order of finish is determined by adding the numerical values of the 3 ballots for each contestant. The swimmer with the lowest numerical total shall be first, the second lowest shall be second, etc. If these totals result in a tie, the time shall stand.

2. In dual, triangular and group meets when personnel for a full ballot are not available, 2 judges (who may be the referee and starter), 1 on either side of the finish line, shall write the placing order, as they see it, by lane number. For example: 3-4-2-5-1-6.
   (a) If the decisions of both judges agree, that order of finish shall be official regardless of times.
   (b) If there is a difference between the rankings of the 2 judges, a modified ballot system shall prevail.
      1. Each judge's result will be awarded the appropriate value according to Section 6 A 1 c.
      2. The official time shall be awarded a value according to Section 6 A 1 b.
      3. The recorder shall tabulate the results following ballot procedures in Rule 5, Section 5 and award the official order of finish.
3. When completely automatic equipment is used:
   (a) The completely automatic equipment will provide timing and judging information (primary information).
   (b) Completely automatic equipment will be backed up by a secondary information system either human or semi-automatic.
   (c) If completely automatic equipment provides complete information for all swimmers in the race, the primary place shall be the official order of finish.
   (d) If completely automatic equipment fails to record the place of one or more contestants in the race, these procedures shall be followed:
      1. A swimmer with a primary place and time shall retain her relative order when compared with the other swimmers having a primary place and time.
      2. A swimmer without a primary place and time shall establish her official place and time by secondary information. All secondary information in the heat shall be balloted to determine the swimmer's proper relative place.
      3. The official place of 1 or more contestants whose times are tied with or fall within a time discrep-

ancy shall be determined by secondary placement information and recorded with the notation "J.D." (Judge's Decision).

B. The order of finish when 2 or more heats are held (as in preliminaries or timed finals) shall be determined by one of the following after the order of finish in each heat has been determined according to Rule 5, Section 6.

1. If human or semi-automatic equipment is used:
   (a) Places shall be awarded on the basis of official time subject to the order of finish in each heat.
   (b) If a contestant has an official time which is tied with 1 or more contestants in another heat, all contestants having that time shall be tied.
   (c) If a judge's decision or ballot decision in 1 heat creates a time discrepancy and a contestant in another heat has a time which is tied with either of these times, or falls within this time discrepancy, all contestants whose times tie or fall within this time discrepancy shall be tied.
2. If completely automatic equipment provides complete information for every contestant in the event:
   (a) Places shall be awarded on the basis of official time subject to the order of finish in each heat.
   (b) If a swimmer has an official time which is tied with that of 1 or more swimmers of another heat, all swimmers having that time shall be tied.
   (c) If a judging decision in 1 heat establishes a finish order for swimmers with identical times, and a swimmer in another heat has an identical time, all shall be tied.
3. If completely automatic equipment is used but a malfunction has resulted in secondary information being used to establish time or place for any swimmer in the event:
   (a) Places shall be awarded on the basis of official time subject to the order of finish in each heat.
   (b) If a swimmer has an official time which is tied with that of 1 or more swimmers in another heat, all swimmers having that time shall be tied.
   (c) If a judging decision or ballot decision in 1 heat creates a time discrepancy and a contestant in another heat has a time which is tied with either of these times, or falls within this time discrepancy, all swimmers whose times tie or fall within this time discrepancy shall be tied.

Section 7. Lap Counting

*A. In the 500- or 1,000-Yard Freestyle, each swimmer shall be provided with a visual lap counter which may be supplemented with a verbal count.

B. Each swimmer shall provide her own counting personnel not to exceed 1 person per swimmer.

C. All counting shall be done within the lateral boundaries of the lane at the opposite end of the pool from the start.

D. A visual counter shall be used which meets specifications set in Rule 1, Section 1 B 7.

E. Counting shall begin at the start of the race and continue until the end. Each counter shall be turned in ascending order of lengths; for example: 1-3-5, etc.

F. Violation of the above provisions shall result in the disqualification of the swimmer.

*G. The lap counter changes the visual counter as the competitor makes each turn at the starting end.

Section 8. Forfeiting

In a dual meet, if a team is not ready 15 minutes after the scheduled starting time of the first event, that team shall forfeit the meet to its opponents, score 15–0. In group meets, any team not ready 15 minutes after the scheduled starting time of the first event shall be disqualified from the meet. The hostess school or meet committee may set aside this procedure if there are extenuating circumstances.

RULE 6. DESCRIPTION OF DIVING

Section 1. Starting Position

A. All dives with a forward take-off shall be performed either standing or with an approach at the option of the diver. A prior declaration of a forward standing take-off is required.

B. The starting position for a dive with an approach shall be assumed when the contestant is ready to take the first step of the approach. The body shall be straight, head erect with arms straight against the sides of the body.

C. The starting position for a standing dive shall be assumed when a competitor stands on the front end of the diving board.

D. The contestant shall be given sufficient time for preparation and performance of the dive.

Section 2. Approach and Take-off

A. The forward approach shall be smooth, forceful, and shall be comprised of not less than 3 steps followed by a hurdle, which is a jump from 1 foot to the end of the board alighting on both feet simultaneously.

B. The take-off shall be from both feet simultaneously. It shall be forceful, reasonably high, and immediately following the hurdle.

C. While executing the standing take-off, the diver must not rock the board excessively or lift her feet from the board prior to take-off.

Section 3. Flight

During the passage through the air the body may be carried in a straight position, with a pike, with a tuck or in a free position.

A. Positions

1. Straight Position
   In the straight position the body shall not be bent either at the knees or at the hips; the legs and feet must be together and the toes pointed.
2. Pike Position
   In the pike position, the body shall not be bent at the hips, but the legs must be kept straight at the knees and together, the feet together, and the toes pointed. The pike shall be as compact as possible.
3. Tuck Position
   In the tuck position, the body shall be bent at both the hips and the knees. The legs, feet and knees should be together and the toes pointed.
   The body should be as compact as possible.

*4. Free Position – The free position (a combination of more than 1 position) may be used in twisting dives only as listed in the Tables. Of the dives performed in the free position, a tuck may be used only in dives 5152, 5221, 5231, 5321 and 5331. If a tuck is utilized in any other twisting dive, the dive is to be considered deficient and awarded not more than 4½ points.

B. Twist Dives
In dives with twists, the twist may be performed at any time during the dive at the option of the diver except in dives number 5111 Pike, 5211 Pike, 5311 Pike and 5411 Pike. In these dives the pike is executed before the twist.

C. Somersaults
In somersaults (other than flying somersaults), the turn

should commence as soon as the diver leaves the board. In flying somersaults, the straight position shall be maintained from the take-off until the body has rotated to the horizontal.

Section 4. Entry

*The entry into the water in all cases should be vertical or nearly vertical. The body should be straight and the legs and feet together and the toes pointed. If a dive is head first the hands should be together, the arms should be straight and extended in line with the body. In foot first entries, the arms should remain close to the body with no being of the elbows.

RULE 7. CONDUCT OF DIVING EVENTS

Section 1. Entry

A. All entry blanks shall specify the type of board to be used in the meet (fiberglass, wood or aluminum), type of fulcrum and the water depth.

*B. Each contestant shall submit a list of her preliminary, semi-final and final dives by entry deadline. This list of dives must be signed by the competitor and shall include a written description of the dive, the position, and the degree of difficulty. Each competitor shall be responsible for the correctness of these items, (an error in the degree of difficulty will not be the basis for a failed dive) and the diving order for that specific competition. Each diver must execute the dive as written or be disqualified for that dive with the exception of position (refer to Rule 8, Section 11 B 1 c and d). If an error in diving order occurs, only 1 mistake shall result in a failed dive, with an immediate adjustment by the referee to correct the remaining diving order. A diver may change any dive or any position 1 hour prior to the start of each championship diving session. In meets which have no entry deadline, the diving list may be delivered anytime before the meet begins or as specified.

C. Only those dives listed in the Diving Tables (page 168) shall be listed on the entry form.

D. No required dive shall be repeated as an optional dive. All dives of the same number, whether straight, pike or tuck, shall be considered the same dive.

Section 2. Order of Diving

A. In championship and group meets, the order of diving shall be drawn by lot.

B. Semifinalists and finalists shall dive in the same relative positions that prevailed in the preliminaries.
C. There shall be only one flight of diving in preliminaries, semifinals, or finals.
D. In dual meets, the visiting team shall have the choice of the alternating positions. (If there is only one visiting team entry in the diving event, that person shall have the choice of any position in the diving order.)

Section 3. Qualifying Procedures

Note: The following system shall be used for a 12-place scoring system. A proportionate system should be used for alternate place scoring.

A. Preliminaries
*1. In the preliminaries, where there are fewer than 40 contestants, each contestant shall perform any two required dives and three optional dives. The three optional dives shall be from different groups. These five dives may be performed in any order.
*2. When there are 40 or more contestants there shall be a cut to 32 divers after the first three rounds of diving.
B. Semifinals
1. After the preliminary round only the divers with the 16 highest scores shall qualify for the semifinals.
*2. The semifinals should start after the semifinalists have been announced as described in meet information.
*3. In the semifinal round, the 16 qualifiers shall each perform the remaining three required dives in any order.
C. Finals
1. After the semifinal round, the divers with the 12 highest scores shall qualify for the finals.
2. The 12 finalists shall each perform the remaining three optional dives.
D. The winner shall be the contestant with the greatest number of points after the peformance of the 11 dives of different numbers.
E. If no more than 16 contestants are entered in the contest, all contestants shall perform both preliminary and semifinal dives and the highest 12 shall qualify for the finals.
*F. In the event that a diver has qualified for the semi-finals or finals and then is injured or ill at the beginning of these rounds and is unable to participate in the round for which she has qualified, the diver in seventeenth place shall move up to the semifinals, or the diver in thirteenth place shall move up to the finals, whichever is the case.

*G. In meets where there is 16 place scoring, the semifinals shall include the top 21 divers and the finals shall include the top 16 divers.

Section 4. General Procedure

A. All dives must be performed by the divers themselves, without assistance from any other person, except for the purposes of water agitation. A violation of the rules must result in the diving Referee declaring a failed dive.
B. Assistance between dives shall be permitted.
C. Each diving event shall be scored as an individual event.

RULE 8. OFFICIALS AND THEIR DUTIES

Section 1. Number of Officials

*A. For Dual and Triangular Meets, there should be a swimming and diving referee and a starter, all of whom should be rated. These officials should be assisted by: a recorder, an announcer, three timers per lane, two persons assigned to the recall rope, and at least one other qualified diving judge. It is strongly recommended that a stroke and/or turn judge be assigned.
*B. For Group or Championship Meets, there shall be a swimming referee, diving referee, and a starter, all of whom should be rated.[1] These officials should be assisted by: stroke and/or turn judges, an official recorder and an assistant, three timers per lane, chief timer, two lane judges per lane, an announcer, two persons assigned to the recall rope, clerk of the course, several runners and at least five qualified diving judges.

Section 2. Meet Committees

A. There shall be a Meet Committee for championship meets. A similar committee is recommended for other large group meets.
*B. The Meet Committee shall be composed of:
1. The Meet Director
2. Diving Referee
3. Swimming Referee

[1] It is strongly recommended that officials rated by the Officiating Services Area of the National Association for Girls and Women's Sport be secured and reimbursed at all meets.

*4. All members of the NAGWS Rule Committee present.
5. Other knowledgeable persons present in order to compose a committee of at least 5 people.

C. The responsibilities of this committee shall be:
1. To consult with and support the officials in the conduct of the meet.
2. To rule on questions arising from the conduct of the meet.
3. To act in any situation not covered by the rules.
4. To exercise discretionary power in setting aside the application of procedure when there is apparent unfairness.

Section 3. The Swimming Referee

The swimming referee shall have full jurisdiction over the swimming events and shall see that all rules are enforced. In other than championship meets, the swimming referee shall make final decisions concerning all questions arising from the conduct of the meet, the final settlement of which is not covered by the rules, and shall have discretionary power to set aside the application of a procedure when there is apparent unfairness.

The swimming referee shall have the following duties:

A. Before the competition begins:
1. See that all required equipment necessary to the proper conduct of the meet is in place.
2. Be sure a full complement of officials is present.
3. Check the scoresheet to be sure the order of events conforms with the official rules.
4. In group meets, check all entry forms for the legal number of contestants for each team in each event and for the legal number of events entered in by each contestant.
5. Supervise the seeding of heats and assigning of lanes when these procedures are used.
6. In triangular meets supervise the draw for lanes and notify the recorder and the teams.
7. Assign head timer for each lane.
8. Conduct a short officials meeting to be sure each person assigned a duty understands his responsibility as indicated by the rules.
9. Indicate for group meets where the swimmer should report to the clerk of the course.
10. Disqualify a swimmer (from that event) who is unable to verify entry time upon request.

B. During the conduct of an event:
1. By use of whistle or microphone, signal for quiet when swimmers and officials are ready to begin an event.
2. Order watches to be cleared before each event and after each false start or delegate this assignment to the head timer for each lane or to a chief timer in championship meets.
3. Call for signal of readiness from judges and timers.
4. Give the following instructions to the swimmers or delegate this duty to the starter for the entire meet:
   (a) The distance to be covered
   (b) The stroke or strokes to be used and their sequence
   (c) The number of lengths to be swum
   (d) The length at which a warning gun shall be fired.
*5. Assist the starter in watching for and calling false starts.
6. Disqualify a swimmer or relay team for committing 2 false starts in a given event.
7. Order the event started without contestants who have failed to report promptly to the starting mark.
8. Charge a contestant with a false start for unnecessary delay after the referee's whistle.
9. Immediately signal for the recall rope to be dropped if there has been a false start or if automatic timing equipment has failed to start.
10. Act as a judge on turns and strokes and have immediate power to disqualify a swimmer for an infraction.

C. At the completion of an event:
1. Report all disqualifications immediately in writing to the disqualified swimmer or her coach and to the recorder indicating the nature of the infraction.
2. Resolve any conflicting decisions among the officials.
3. See that results are announced as quickly as possible at the completion of each event and that the next event starts promptly thereafter.
4. Disqualify a contestant who competes in more than the allowable number of events from the illegally entered event.
5. Disqualify a contestant who has been coached during an event.
*6. Disqualify a contestant who violates any provision in Rule 4.
*7. After the last event, audit the recorder's tabulations and, when correct, sign the scoring sheet, and thereby establish the score as official. After the referee signs the official scoresheet, no changes may be made even though an

error may be discovered later. If a protest has been registered, the referee should not sign the scoresheet until the protest has been resolved.

8. A championship meet score is subject to review by the meet committee or referee within 30 days or within 7 days for other meets.

Section 4. The Starter

The starter shall have full control over the swimmers from the time of assignment by the swimming referee until the race is properly underway. The starter shall perform the following duties:

A. Prior to the first event:
Instruct all swimmers as to the starting procedure and recall signal to be used throughout the meet.

B. Prior to each event:
1. Check the pistol to be sure there are at least 3 good cartridges in the magazine.
2. Stand in a position seen easily by the swimmers and the timers within 10 feet of the starting end of the pool.
3. Give instructions to the swimmers if the swimming referee defers this responsibility. See Rule 8, Section 3 B 4.
4. Carry out the starting procedures.
5. Wait for acknowledgment of readiness of the officials from the swimming referee before raising the cocked pistol overhead and giving the command, "Take your marks."
6. Delay the starting signal until all swimmers are motionless.
7. Release the swimmers with the command "Stand up" if the preparation of the swimmers for the start is unsatisfactory.
8. Charge any swimmer who enters the water after the command "Stand up" with a false start.
*9. When using an automatic timing device in championship meets, either the starter or an assigned recall starter shall immediately discharge a pistol if the starting device is not started properly so that the recall rope may be dropped.

C. During an event:
1. Recall all swimmers by firing a pistol or blowing a whistle in case the pistol is not properly discharged. No contestant shall be charged with a false start.

2. Recall all swimmers when the pistol is properly discharged but 1 or more swimmers shall have obtained an unfair advantage at the start. The Starter shall indicate verbally the swimmer(s) who shall be charged with a false start.
3. Discharge the pistol when the leading swimmer has 2 lengths plus 5 yards to swim in the 500- and 1,000-Yard Freestyle events.

***Section 5. The Recorder Shall:**

A. Report the progress of the meet on the official scoresheet and keep a cumulative score.
B. Follow the scoring procedures in Rule 9.
C. Determine the official order of finish for each event following the procedures listed in Rule 5, Section 6.
D. Enter the place and official time of each contestant on the scoresheet and award appropriate points.
E. Determine if a record has been established.
F. Prepare a statement of results for the announcer.
G. Record diving scores following procedures in Rule 9, Section 7.
H. Assist the swimming and/or diving referee in auditing the scoresheet at the conclusion of the meet.
I. Check in dual and triangular meets that no contestant has swum in more events than are allowed.
J. Sign the official scoresheet.

Section 6. Judges of Strokes and/or Turns

The judge(s) of strokes and/or turns shall perform the following duties within the limits assigned by the swimming referee.

A. Report in writing to the swimming referee any violation of Rule 4.
B. Indicate an infraction of the rule by immediately raising 1 hand overhead with open palm. If the judge is responsible for more than 1 lane, the fingers on the raised hand or hands should indicate the lane number of the swimmer who was in violation.

***Section 7. The Announcer Should Perform the Following Duties:**

A. During the swimming events:
   1. Announce the results of the competition at the end of each event giving the event score and the running score.
   2. Direct contestants for the next event to report to the starting area.

B. During the diving events:
   1. Shall announce before each dive:
      (a) Name of the contestant
      (b) Name of the dive
      (c) Position in which the dive is to be executed
      (d) Degree of difficulty
      (e) Forward standing take-off if this position is to be used.
   2. May call the judges' awards after each dive is assigned this duty by the diving referee.
   3. May announce the score for the dive and the running score of the diver.
   4. Shall announce the final scores at the completion of diving competition.

Section 8. Timer

Timers shall be responsible for the official recording of all times, including times of swimmers who appear to be disqualified.

A. Timers shall not serve as finish judges in the same race.
B. Three timers should be assigned to each working lane.
C. Each timer should be provided with a properly wound and synchronized stopwatch.
D. One of the timers on each lane shall be appointed head lane timer by the referee and shall fulfill the following duties:
   1. Record all times from her lane.
   2. Determine the official time for her lane following Rule 5, Section 6.
   3. May act as relay take-off ju[illegible] for the second and subsequent swimmers of a relay in her lane.
      (a) For the second and subsequent swimmers in a relay, place a finger in contact with the swimmer's longest toe and observe the end of the pool to determine whether the swimmer has lost contact with the starting surface before the preceding relay contestant has touched the end.
      (b) Indicate false start by immediately raising 1 hand overhead with palm open.
   4. Instruct each timer to start her watch instantly on the flash of the starter's pistol and to stop her watch simultaneously with the swimmer's finish at the end of the pool.
   5. Instruct each timer to raise her hand immediately in order to attract an alternate timer if a watch does not start or operate properly.

6. Order timers to clear their watches if delegated this responsibility by the referee.

E. A Chief Timer may be appointed by the referee for championship meets to fulfill the duties that a head lane timer has for most meets. See Section 8 D 4, 5, 6.

Section 9. Lane Judges

The lane judges shall be assigned as follows:

A. In dual meets 2 judges (usually the starter and referee) 1 on either side of the finish line, shall give in writing to the recorder the scoring order of the finish by lanes, i.e., 3-4-2-5-1-6.

B. In group and championship meets, there shall be 2 lane finish judges per lane situated 1 on either side of the finish line, assigned to record the place of finish of the swimmer in an assigned lane.
   1. The swimmer shall be given the highest place she could have scored.
   2. No ties shall be recorded.

Section 10. The Clerk of the Course:

May be used in group or championship meets where she shall perform the following duties:

A. Organize the contestants for each event.

B. If no qualifying times have been submitted, supervise the draw for lanes and heats.

Section 11. The Diving Referee

Shall have full jurisdiction over the diving events, shall see that all rules are enforced, and shall have discretionary power to set aside the application of a procedure when there is apparent unfairness. The diving referee shall consult with the Meet Committee, when one exists, on major issues. The diving referee shall complete the following duties:

A. Before the diving event(s):
   1. Draw the required dive for a 1-meter event and draw a second time for the required dive for a 3-meter event.
   2. Determine the order of diving as described in Rule 7, Section 2.
   3. Check the diving entry sheets for:
      (a) Proper listing of dives and degree of difficulty according to the diving rules.
      (b) Signature of the diver.

4. Confirm that all required equipment necessary to the proper conduct of the event is in place.
5. Place and assign the diving judges as follows:
   *(a) Judges should be placed on both sides of the diving board, where practical, so they may have a profile view. If it is not possible to separate the judges, they shall be placed together on 1 side.
   (b) Judges shall maintain their respective places throughout the preliminary, semifinal and final sessions.
   (c) Judges for preliminary sessions also shall judge the semifinals and finals unless, due to unavoidable circumstances, a judge must be replaced. Under those circumstances the Diving Referee shall have the authority to make the change.
6. Allow each diver 1 practice approach and/or an approach and water entry immediately prior to the start of diving competition.

B. During the diving event:
1. Apply the following penalties when appropriate:
   (a) Disqualify a diver who does not make an honest attempt to complete each of her dives as announced.
   (b) Call for a failed dive for the following reasons:
      (1) Diver falls into the water prior to assuming the starting position.
      (2) Diver executes a dive other than that announced.
      (3) Diver receives assistance during a dive.
      (4) If the second attempt to obtain balance or take-off is unsuccessful.
      *(5) If the amount of twist is greater or less than 90° than that announced.
   (c) Instruct the judges to consider a dive unsatisfactory and award not more than 2 points if a diver's position is completely broken or performed in a position other than that written.
   (d) Instruct the judges to consider a dive deficient and award not more than 4½ points if the dive position is partially altered or broken during the flight.
   (e) Deduct 2 points from each of the judges' awards if a diver takes less than 3 steps before the hurdle.
   *(f) Instruct the recorder to reduce each judge's award by 2 points in the event of a contestant making a balk or false start on the diving board and not completing a dive which has been started. These instructions shall be given upon completion of the second attempt. If the second attempt to obtain a balance or take-off is

unsuccessful, it should be considered as a failed dive. No further attempt shall be permitted.

*(g) Instruct the judges to deduct from 1 to 3 points from her award if the arms are not in the correct prescribed position on entry into the water.

*(h) Instruct the judges to deduct from 0 to 1½ points from her award if the driver rocks the board excessively or lifts her feet from the board prior to the standing take-off.

2. Upon immediate request of the diver, permit a dive to be repeated, when, in the diving referee's opinion, or the diver's opinion, the execution of the dive was influenced by exceptional circumstances. The dive must be rejected before the next diver dives. Exceptional circumstances include only the most unusual happenings.
3. Signal for the judges' awards at the completion of each dive.
4. Call the judges' awards in a consistently consecutive order or assign this duty to the announcer.
5. Instruct the recorder to place individual awards in the same consecutive order on the scoresheet.
6. Supervise the recorder in computing the final score (Rule 9).

*C. After the diving event:

Audit the scoresheet and confirm the results by signature. Once the scoresheet is signed by the diving referee, no change can be made in the official diving score even if an error is found later.

Section 12. Diving Judges

A. The judges shall sit where the diving referee directs them.

B. Dives shall be judged on the following principles:
   1. The dive shall be considered without regard to the approach to the starting position.
   2. The dive shall be evaluated on:
      (a) The forward approach
      (b) The take-off
      (c) The technique and grace of the diver during her flight through the air, and
      (d) The entry into the water. A dive that is short should be penalized no less than a dive that is long.
      *(e) Judging of a dive shall be completed when the diver's body has entered the water without regard to movements underwater.

C. Diving judges shall award scores in accordance with the scale in Rule 9, Section 7, and the following:

1. Each judge shall assess each dive independently and shall be influenced in these judgments only as specified in Rule 8, Section 11.
2. If the diver's knees are spread while in tuck position, the judges shall deduct 1 to 2 points.
3. If the diver, when executing a standing take-off, rocks the board excessively or lifts feet from the board before the take-off, each judge may deduct up to 1½ points from the diver's award according to the diving judge's individual opinion of the violation.

*4. If in any dive, the diver touches the end of the board or dives to the side of the direct line of flight, each judge must exercise his own opinion regarding the deduction to be made. Properly executed dives should be a safe distance from and should enter the water directly in front of the board.

D. After each dive, on the signal from the diving referee, each judge without communication with any other judge shall immediately and simultaneously with other judges flash his award.

RULE 9. SCORING

Section 1. Intercollegiate Dual Meets

The scoring of place values shall be: relays, 7-0; all individual events including both swimming and diving events, 5-3-1.

A. In each event only one relay team or the 2 fastest swimmers in an individual event or the 2 best divers may score points for a given team.
B. The numerical score to be recorded for a forfeited meet shall be 11-0.

Section 2. Intercollegiate Triangular Meets

The scoring of place values shall be: relays, 8-4-0, all individual events including both swimming and diving, 6-4-3-2-1-0.

*Section 3. Interscholastic Dual Meets

The scoring of place values shall be:

A. Six or more lanes: relays, 8-4-2; all individual events including both swimming and diving, 6-4-3-2-1.
B. Four lanes: relays 6-3-1; all individual events, 4-2-1.
C. All competitors who complete an event are eligible to place and score points. A competitor who is disqualified from an event shall not be eligible to score points in that event.

Section 4. Group or Championship Meets

Using either timed finals or championship and consolation finals, the places for both swimming and diving events shall be awarded to not less than twice the number of lanes in the pool. Example scoring values for:

A. Five-lane pool (10 places) – Relays 28, 22, 20, 18, 16, 12, 8, 6, 4, 2
   Individual 14, 11, 10, 9, 8, 6, 4, 3, 2, 1
B. Six-lane pool (12 places) – Relays 32, 26, 24, 22, 20, 18, 14, 10, 8, 6, 4, 2
   Individual 16, 13, 12, 11, 10, 9, 7, 5, 4, 3, 2, 1
C. Eight-lane pool (16 places) – Relays 40, 34, 32, 30, 28, 26, 24, 22, 18, 14, 12, 10, 8, 6, 4, 2
   Individual 20, 17, 16, 15, 14, 13, 12, 11, 9, 7, 6, 5, 4, 3, 2, 1

Section 5. General Regulations

A. Should only 1 contestant enter an event, that 1 contestant shall swim or dive to be awarded points.
B. Should 2 or more contestants enter an event, and later all but 1 withdraw, that 1 contestant shall compete to be awarded points.

Section 6. Ties

In the event that 2 swimmers tie for first place, the first and second place awards shall be added and half of the sum shall be awarded to each swimmer in the tie; there shall be no second place. If 3 swimmers tie for first place, the first, second, and third place awards shall be added and one-third of the sum shall be awarded to each swimmer in the tie; there shall be no second or third place. The same principle shall apply to ties for any other place.

Section 7. In Group or Championship Meets

If a swimmer in either the consolation final or the final is disqualifed while competing, the residual points shall be lost from the meet. If a swimmer fails to compete except in case of a medical excuse, false start infraction, or excessive entries, her previous scores shall be nullified; however, the points scored by other teams shall not be altered.

Section 8. Diving Judges

Independently shall give scores for each dive from 0 to 10 in accordance with the following table. (One-half point scale may be used.)

Very good	8½ through 10 points
Good	6½ through 8 points
Satisfactory	5 through 6 points
Deficient	2½ through 4½ points
Unsatisfactory	½ through 2 points
Completely failed	0 points

Section 9. Diving Scores

Diving scores shall be computed as follows:

A. The individual judges' awards shall be recorded.
B. If there are 3 judges, all 3 awards shall be used; none shall be cancelled.
C. If there are 5 or 7 judges, the highest and lowest awards shall be cancelled. If there are 2 or more identical highest and/or lowest awards, either of the identical awards may be cancelled. If there are 9 judges, the 2 highest and 2 lowest awards shall be cancelled.
D. The score for each dive is determined by multiplying the sum of the remaining judges' awards by the degree of difficulty.
E. The diver's final score is the sum of the scores for each dive.
F. The winner of the event is the diver with the highest total accumulated score. If 2 or more divers have equal scores, they shall be declared tied.
G. Each diving event is scored as an individual event in the team score.

Section 10. Team Score

The team having the greatest number of points shall be declared the winner of the meet. If the number of points for 2 teams is the same, the meet is declared a tie.

RULE 10. MEET RESULTS AND RECORDS

Section 1. Meet Results

Meet results to be published in the *NAGWS Aquatics Guide* shall include the Intercollegiate National Meet and Regional Meets, and State or Regional State Interscholastic Meets.

Section 2. Records

Performances in which records may have been set shall have been made in races which have been a part of a dual, triangular, group or championship meet, conducted under NAGWS Rules.

The first swimmer in a relay may set a record for the distance of

the lap providing there be a gun or electronic start and times be recorded by

a) an automatic timing device which can display split times.

or

b) 3 times from devices separate from the 3 timing devices assigned to the lane. (Watch split-times shall *not* be acceptable.)

No records will be recognized when achieved in events closed to one college or school or in special time trials.

A. Interscholastic Records

1. Short course records shall be made in pools not less than 25 yards in length but less than 25 meters in length.
2. Records shall be recognized for the short course in the following events:

Short Course

50-Yard Freestyle
200-Yard Freestyle
200-Yard Freestyle Relay
200-Yard Medley Relay
100-Yard Freestyle
500-Yard Freestyle
100-Yard Breaststroke
100-Yard Backstroke
100-Yard Butterfly
200-Yard Individual Medley
400-Yard Freestyle Relay

B. Intercollegiate Records

Short course records only shall be recognized. Pools shall be at least 25 yards in length but less than 25 meters in length. The following events shall be recognized:

50-Yard Freestyle
200-Yard Freestyle
1,000-Yard Freestyle
100-Yard Backstroke
50-Yard Butterfly
200-Yard Butterfly
100-Yard Breaststroke
100-Individual Medley
400-Yard Free Relay
200-Yard Medley Relay
100-Yard Freestyle
500-Yard Freestyle
50-Yard Backstroke
200-Yard Backstroke
100-Yard Butterfly
50-Yard Breaststroke
200-Yard Breaststroke
200-Individual Medley
200-Yard Free Relay
400-Yard Medley Relay

Section 3. Application for NAGWS Interscholastic and Intercollegiate Records

A. Application shall be made on the form in the current *NAGWS Aquatics Guide* or a facsimile of the form and be submitted

within 2 weeks to the Chairman of the Swimming and Diving Rules Committee.

B. The application shall contain the following:
   1. Date of application
   2. Full name of contestant
   3. Nature of record
   4. Short course or twenty yard course
   5. Name of school or college contestant represents
   6. Location of school or college
   7. Official time
   8. Nature of timing devices (stopwatches, semi-automatic devices, completely automatic equipment)
   9. Distance and name of event
   10. Name and address of pool
   11. Date performance was achieved.
   12. Actual measurement of the pool.
   13. Signature of the Referee, Starter, 2 finish judges, and the 3 timers if stopwatches and/or semi-automatic judging and timing devices were used.
   14. Signature of the Referee, Starter, and time reader only if a full automatic judging and timing device was used.

C. Attached to the application:
   1. Jeweler's certification attesting to synchronization of the watches recording the achieved time shall accompany the application if record was set with stopwatches and not fully automatic device.
   2. Engineer or surveyor's certificate attesting measurement of the pool (indication of feet, inches and fractions of an inch) shall accompany the application or be on file with the NAGWS Aquatics Rules Chairman.

Results (which could be photostatic copies of the official scoresheet) of Interscholastic State or Regional State Meets or results of Intercollegiate National and Regional Meets should be sent to Chairperson of the NAGWS Aquatic Rules, Nancy O'Connor, 210 Moby Gym, Colorado State University, Ft. Collins 80521, within 2 weeks of the meet.

For *Interpretation of Rules* write to Bee Hallett, NAGWS Aquatic Rules Interpreter, Women's Physical Education Dept., Central Michigan University, Mt. Pleasant 48859.

For *Suggested Rule Changes* write to Nancy O'Connor. (See address in top box.)

SPRINGBOARD DIVING TABLES

NAME OF DIVER ▶ _____

CIRCLE DEGREE OF DIFFICULTY & LIST ORDER OF EXECUTION

1 METER Springboard				3 METER Springboard				DEGREES OF DIFFICULTIES FINA		
								REVISED DECEMBER 17, 1973		
a	b	c	d	a	b	c	d	DIVE NUMBER	ORDER OF EXECUTION	I. FORWARD DIVES
1.4	1.2	1.2	---	1.6	1.3	1.3	---	101		Forward Dive
1.7	1.5	1.4	---	1.8	1.7	1.7	---	102		Fwd. Somersault
---	1.7	1.6	---	2.1	1.6	1.6	---	103		Fwd. 1½ Somersault
---	2.2	2.0	---	---	2.2	2.1	---	104		Fwd. Double Somersault
---	2.6	2.3	---	---	2.3	2.1	---	105		Fwd. 2½ Somersault
---	---	2.6	---	---	2.7	2.5	---	106		Fwd. Triple Somersault
---	---	3.0	---	---	3.0	2.7	---	107		Fwd. 3½ Somersault
---	1.7	1.5	---	---	1.7	1.6	---	112		Fwd. Flying Somersault
---	1.9	1.8	---	---	1.8	1.7	---	113		Fwd. Flying 1½ Somersault
---	---	---	---	---	---	---	---	114		Fwd. Flying Double Som.
---	---	---	---	---	---	---	---	115		Fwd. Flying 2½ Somersault
---	---	---	---	---	---	---	---	116		Fwd. Som. with Flying 1½
										II. BACK DIVES
1.5	1.5	1.6	---	1.7	1.7	1.7	---	201		Back Dive
1.7	1.6	1.5	---	1.6	1.7	1.5	---	202		Back Somersault
2.6	2.4	2.2	---	2.2	2.2	2.0	---	203		Back 1½ Somersault
---	2.3	2.2	---	2.4	2.2	2.0	---	204		Back Double Somersault
---	---	3.0	---	---	3.0	2.8	---	205		Back 2½ Somersault
---	1.8	1.7	---	---	---	1.6	---	212		Back Flying Somersault
---	---	---	---	---	---	2.1	---	213		Back Flying 1½ Somersault
										III. REVERSE DIVES
1.7	1.7	1.7	---	1.9	1.9	1.7	---	301		Reverse Dive
2.0	1.8	1.6	---	1.9	1.7	1.5	---	302		Reverse Somersault
2.8	2.5	2.3	---	2.6	2.4	2.2	---	303		Reverse 1½ Somersault
---	---	2.2	---	---	2.4	2.2	---	304		Reverse Double Somersault
---	---	3.0	---	---	3.0	2.8	---	305		Reverse 2½ Somersault
---	1.8	1.7	---	---	---	1.6	---	312		Reverse Flying Somersault
---	---	---	---	---	---	2.4	---	313		Reverse Flying 1½ Som.
										IV. INWARD DIVES
1.7	1.3	1.2	---	1.6	1.3	1.2	---	401		Inward Dive
---	1.9	1.7	---	---	1.7	1.5	---	402		Inward Somersault
---	2.4	2.2	---	---	2.2	2.0	---	403		Inward 1½ Somersault
---	---	2.3	---	---	2.4	2.3	---	404		Inward Double Somersault
---	---	---	---	---	2.9	2.6	---	405		Inward 2½ Somersault
---	---	---	---	---	---	1.8	---	412		Inward Flying Somersault
---	---	---	---	---	---	2.3	---	413		Inward Flying 1½ Somersault

Note: For platform diving degree of difficulties, refer to the current *AAU Diving Rule Book.*

V. TWIST DIVES

---	1.7	---	---	1.9	1.8	---	---	5111	Fwd. Dive ½ Twist
2.0	2.1	---	---	2.0	2.1	---	---	5112	Fwd. Dive 1 Twist
---	---	---	---	1.7	1.9	1.7	---	---	5121	Fwd. Som. ½ Twist
---	---	---	---	2.0	---	---	---	2.0	5122	Fwd. Som. 1 Twist
---	---	---	---	2.2	---	---	---	---	5124	Fwd. Som. 2 Twists
---	---	---	---	2.4	---	---	---	---	5126	Fwd. Som. 3 Twists
---	1.9	1.8	---	---	1.8	1.7	---	---	5131	Fwd. 1½ Som. ½ Twist
---	---	---	---	2.2	---	---	---	2.1	5132	Fwd. 1½ Som. 1 Twist
---	---	---	---	2.7	---	---	---	2.4	5134	Fwd. 1½ Som. 2 Twists
---	---	---	---	3.0	---	---	---	2.9	5136	Fwd. 1½ Som. 3 Twists
---	---	---	---	---	---	---	---	2.8	5152	Fwd. 2½ Som. 1 Twist
---	---	---	---	---	---	---	---	3.0	5154	Fwd. 2½ Som. 2 Twists
1.6	2.0	---	---	1.6	1.9	---	---	---	5211	Back Dive ½ Twist
2.1	---	---	---	2.0	---	---	---	---	5212	Back Dive 1 Twist
---	---	---	---	1.7	1.8	1.8	---	---	5221	Back Somersault ½ Twist
---	---	---	---	1.9	---	---	---	2.0	5222	Back Somersault 1 Twist
---	---	---	---	2.1	---	---	---	2.1	5223	Back Somersault 1½ Twists
---	---	---	---	2.3	---	---	---	---	5225	Back Somersault 2½ Twists
---	---	---	---	2.1	---	---	---	2.1	5231	Back 1½ Som. ½ Twist
---	---	---	---	2.6	---	---	---	2.4	5233	Back 1½ Som. 1½ Twists
---	---	---	---	2.8	---	---	---	2.7	5235	Back 1½ Som. 2½ Twists
---	---	---	---	---	---	---	---	2.9	5237	Back 1½ Som. 3½ Twists
1.9	2.2	---	---	2.0	2.2	---	---	---	5311	Reverse Dive ½ Twist
2.2	---	---	---	2.2	---	---	---	---	5312	Reverse Dive 1 Twist
---	---	---	---	1.8	---	---	---	2.0	5321	Reverse Som. ½ Twist
---	---	---	---	2.0	---	---	---	2.2	5322	Reverse Som. 1 Twist
---	---	---	---	2.2	---	---	---	2.2	5323	Reverse Som. 1½ Twists
---	---	---	---	2.4	---	---	---	---	5325	Reverse Som. 2½ Twists
---	---	---	---	2.2	---	---	---	2.2	5331	Reverse 1½ Som. ½ Twist
---	---	---	---	2.7	---	---	---	2.5	5333	Reverse 1½ Som. 1½ Twists
---	---	---	---	2.9	---	---	---	2.8	5335	Reverse 1½ Som. 2½ Twists
---	---	---	---	---	---	---	---	3.0	5337	Reverse 1½ Som. 3½ Twists
---	1.7	---	---	2.0	1.8	---	---	---	5411	Inward Dive ½ Twist
---	---	---	---	2.2	2.2	2.2	---	---	5412	Inward Dive 1 Twist
---	1.9	1.9	---	---	2.0	2.0	---	---	5421	Inward Som. ½ Twist
---	---	---	2.2	---	---	---	---	---	5422	Inward Som. 1 Twist
---	---	---	---	---	---	---	---	2.6	5432	Inward 1½ Som. 1 Twist
---	---	---	---	---	---	---	---	---	5434	Inward 1½ Som. 2 Twists

AAU AMERICAN SWIMMING RECORDS*

WOMEN'S SHORT COURSE (Yards)

FREESTYLE					
100 yd.	50.89	Kathy Heddy	Central Jersey A.C.	Dallas, TX	Apr. 13, 1974
200 yd.	1:48.79	Shirley Babashoff	Mission Viejo Nadadores	Dallas, TX	Apr. 11, 1974
500 yd.	4:47.34	Shirley Babashoff	Mission Viejo Nadadores	Dallas, TX	Apr. 10, 1974
1,650 yd.	16:28.37	Karen Hazen	Arden Hills S.C.	Dallas, TX	Apr. 13, 1974
BACKSTROKE					
100 yd.	57.30	Linda Stimpson	Lakewood A.C.	Dallas, TX	Apr. 12, 1974
200 yd.	2:04.00	Wendy Cook	Canadian Dolphins S.C.	Dallas, TX	Apr. 10, 1974
200 yd.	2:04.01c	Susan Atwood	Lakewood A.C.	Dallas, TX	Apr. 5, 1972
BREASTSTROKE					
100 yd.	1:05.53	Marcia Morey	Decatur S.C.	Dallas, TX	Apr. 10, 1974
200 yd.	2:19.77	Lynn Colella	Totem Lake S.C.	Dallas, TX	Apr. 12, 1974
BUTTERFLY					
100 yd.	55.89	Peggy Tosdal	Mission Viejo Nadadores	Dallas, TX	Apr. 10, 1974
200 yd.	2:00.84	Valerie Lee	Mission Viejo Nadadores	Dallas, TX	Apr. 12, 1974
INDIVIDUAL MEDLEY					
200 yd.	2:05.06	Kathy Heddy	Central Jersey A.C.	Dallas, TX	Apr. 13, 1974
400 yd.	4:26.22	Jenni Franks	Wilmington A.C.	Dallas, TX	Apr. 11, 1974
FREESTYLE RELAY					
200 yd.	1:39.70	San Fernando Valley Athletic Club		Cypress, CA	May 6, 1973
		(Shelley Worthen, Cindy Schilling, Kimberly Worthen, Kathy Ferguson)			
400 yd.	3:29.22	Mission Viejo Nadadores		Dallas, TX	Apr. 13, 1974
		(Peggy Tosdal, Kelly Hamill, Valerie Lee, Shirley Babashoff)			
800 yd.	7:30.73	Mission Viejo Nadadores		Dallas, TX	Apr. 12, 1974
		(Peggy Tosdal, Kathy Howe, Valerie Lee, Shirley Babashoff)			
MEDLEY RELAY					
200 yd.	1:52.78	Arizona State University		Moscow, ID	Mar. 15, 1973
		(Carol Phlugher, Debby Hudson, Cappy Siefarth, Lynn Morrison)			
400 yd.	3:54.25	Santa Clara Swim Club		Dallas, TX	Apr. 11, 1974
		(Nancy Kirkpatrick, Amy Bettencourt, Meg Gerken, Kelly Rowell)			

WOMEN'S SHORT COURSE (Meters)

FREESTYLE					
100 m.	58.05	Kathy Heddy	USA	Bremen, Germany	Mar. 2, 1974
200 m.	2:02.90	Heather Greenwood	USA	Bremen, Germany	Mar. 3, 1974
400 m.	4:20.67	Heather Greenwood	USA	Bremen, Germany	Mar. 2, 1974
800 m.	8:49.22	Heather Greenwood	USA	Bremen, Germany	Mar. 1, 1974
1,500 m.	16:54.60	Deborah Meyer	Arden Hills S.C. Cincinnati		Apr. 12, 1970
BACKSTROKE					
100 m.	1:05.70	Melissa Belote	USA	Paris, France	Feb. 17, 1974
200 m.	2:20.40	Melissa Belote	USA	Plovdiv, Bulgaria	Apr. 28, 1973
BREASTSTROKE					
100 m.	1:13.50	Catie Ball	USA	Bremen, Germany	Mar. 4, 1967
200 m.	2:38.91	Lynn Colella	USA	Bremen, Germany	Mar. 3, 1974

*The Amateur Athletic Union recognizes swimming records in accordance with Article XII of the AAU Swimming Rules. Records on pp. 168-171 are reprinted with permission of the AAU.

BUTTERFLY

100 m.	1:03.97	Lynn Colella	USA	Bremen, Germany	Mar. 3, 1974
200 m.	2:18.28	Lynn Colella	USA	Bremen, Germany	Mar. 2, 1974

INDIVIDUAL MEDLEY

200 m.	2:22.43	Kathy Heddy	USA	Bremen, Germany	Mar. 3, 1974
400 m.	5:02.90	Claudia Kolb	USA	Bremen, Germany	Mar. 1, 1968

FREESTYLE RELAY*

200 m.	1:53.45	St. Petersburg Recreation Department (Dea Mingnon Loy, Kimberly Jacobs, Jacqueline Bajus, Judith Ann Merrill)	Sarasota, FL	July 7, 1974
400 m.	3:59.04	U.S. National Team (Lynn Colella, Sara James, Heather Greenwood, Kathy Heddy)	Bremen, Germany	Mar. 1, 1974
400 m. (Club)	4:01.40	Cincinnati Marlins (Jennifer Kemp, Alice Jones, Heidi Lipe, Deena Deardurff)	Lake Forest, IL	Jan. 29, 1972

MEDLEY RELAY

200 m.	2:03.00	U.S. National Team (Sara James, Allison Grant, Camille Wright, Diane Gentes)	Port au Spain, WI	Sept. 1, 1973
200 m. (Club)	2:08.90	St. Petersburg Recreation Department (Jacqueline Bajus, Maureen Morrissey, Kimberly Jacobs, Marguerite McCully)	Sarasota, FL	July 6, 1974
400 m.	4:28.56	U.S. National Team (Sara James, Lynn Colella, Kathy Heddy, Heather Greenwood)	Bremen, Germany	Mar. 2, 1974
400 m. (Club)	4:34.80	Cincinnati Marlins (Jennifer Kemp, Debbie Coward, Alice Jones, Deena Deardurff)	Lake Forest, IL	Jan. 16, 1971

WOMEN'S LONG COURSE (Meters)

FREESTYLE

100 m.	57.81	Kornelia Ender	GDR	Concord, CA	Sept. 1, 1974
100 m.	57.90(c)	Kim Peyton	USA	Concord, CA	Sept. 1, 1974
200 m.	2:02.94	Shirley Babashoff	Mission Viejo Nadadores	Concord, CA	Aug. 23, 1974
400 m.	4:15.77	Shirley Babashoff	Mission Viejo Nadadores	Concord, CA	Aug. 22, 1974
800 m.	8:47.50	Jo Harshbarger	Lake Washington S.C.	Concord, CA	Aug. 25, 1974
1,500 m.	16:33.94	Jenny Turrall	Ryde Australia S.C.	Concord, CA	Aug. 25, 1974
1,500 m.	16:39.54(c)	Jo Harshbarger	Lake Washington S.C.	Concord, CA	Aug. 25, 1974

BACKSTROKE

100 m.	1:02.98	Ulrike Richter	GDR	Concord, CA	Sept. 1, 1974
100 m.	1:04.68c	Marjorie Moffitt	Solotar S. T.	Concord, CA	Aug. 24, 1974
200 m.	2:18.20	Ulrike Richter	GDR	Concord, CA	Aug. 31, 1974
200 m.	2:19.19c	Melissa Belote	USA	Munich, Germany	Sept. 4, 1972

BREASTSTROKE

100 m.	1:12.28	Renate Vogel	GDR	Concord, CA	Sept. 1, 1974
100 m.	1:13.58c	Catherine Carr	USA	Munich, Germany	Sept. 2, 1972
200 m.	2:35.78	Karla Linke	GDR	Concord, CA	Aug. 31, 1974
200 m.	2:38.50c	Catie Ball	Jacksonville Jets	Los Angeles	Aug. 26, 1968

BUTTERFLY

100 m.	1:01.88	Rosemarie Kother	GDR	Concord, CA	Sept. 1, 1974
100 m.	1:02.18c	Peggy Tosdal	USA	Concord, CA	Sept. 1, 1974
200 m.	2:14.47	Rosemarie Kother	GDR	Concord, CA	Aug. 31, 1974
200 m.	2:15.13c	Valerie Lee	USA	Concord, CA	Aug. 31, 1974

*800 m. (Short Course) Freestyle Relay is a recognized stroke and distance for Women's American Records.

INDIVIDUAL MEDLEY

200 m.	2:19.63	Ulrike Tauber	GDR	Concord, CA	Sept. 1, 1974
200 m.	2:21.05c	Kathy Heddy	USA	Concord, CA	Sept. 1, 1974
400 m.	4:55.89	Ulrike Tauber	GDR	Concord, CA	Aug. 31, 1974
400 m.	5:00.51c	Jenni Franks	Wilmington A.C.	Concord, CA	Aug. 23, 1974

FREESTYLE RELAY

200 m.	1:55.00	U.S. National Team (Pokey Watson, Cathy Ferguson, Terry Stickles, Martha Randall)	Monaco	Aug. 27, 1965
200 m. (Club)	1:56.60	Santa Clara Swim Club (Pam Campinelli, Jennifer Eagleston, Janelle Vogt, Liana Oei)	Hayward, CA	June 23, 1968
400 m.	3:51.99	U.S. National Team (Kathy Heddy, Ann Marshall, Kim Peyton, Shirley Babashoff)	Concord, CA	Aug. 31, 1974
400 m. (Club)	3:58.10	Mission Viejo Nadadores (Peggy Tosdal, Kelly Hamill, Valerie Lee, Shirley Babashoff)	Concord, CA	Aug. 25, 1974
800 m.	8:28.90	U.S. National Team (Ann Marshall, Keena Rothhammer, An Simmons, Shirley Babashoff)	Knoxville, TN	Aug. 18, 19[illegible]
800 m. (Club)	8:30.23	Mission Viejo Nadadores (Peggy Tosdal, Kathy Howe, Valerie Lee, Shirley Babashoff)	Concord, CA	Aug. 24, 1974

MEDLEY RELAY

200 m.	2:06.80	Lakewood Aquatic Club (Susan Atwood, Kimla Brecht, Bonnie Adair, Linda Kiddie)	Long Beach, CA	May 14, 1971
400 m.	4:17.76	U.S. National Team (Margie Moffit, Marcia Morey, Peggy Tosdal, Kim Peyton)	Concord, CA	Sept. 1, 1974
400 m. (Club)	4:24.76	Lakewood Aquatic Club (Linda Stimpson, Anna Jean Burge, Shari Ramage, Lelei Fonoimoana)	Concord, CA	Aug. 23, 1974
400 m.	4:15.00	G. D. R. National Team (Ulrike Richter, Renate Vogel, Rosemarie Kother, Kornelia Ender)	Concord, CA	Sept. 1, 1974

WOMEN'S LONG COURSE (Yards)*

FREESTYLE

110 yd.	1:00.30	Janie Barkman	USA	London	Sept. 20, 1967
220 yd.	2:11.07	Jenni Franks	Mid Atlantic All Stars	Philadelphia	Apr. 20, 1974
440 yd.	4:32.20	Jo Harshbarger	Lake Washington S.C.	Seattle	July 28, 1973
880 yd.	9:15.50	Jo Harshbarger	Lake Washington S.C.	Seattle	July 27, 1973
1,780 yd.	18:40.05	Jo Harshbarger	Lake Washington S.C.	Seattle	July 27, 1973
†3 miles 1 hr.	3:11.90	Ann Tasnady	Santa Clara S.C.	Huntington, IN	Aug. 9, 1970

BACKSTROKE

110 yd.	1:07.30	Kaye Hall	Tacoma S.C.	Tacoma, WA	Aug. 21, 1969
220 yd.	2:27.16	Looper Bowers	Mid Atlantic All Stars	Philadelphia	Apr. 20, 1974

BREASTSTROKE

110 yd.	1:17.00	Catie Ball	USA	London	Sept. 30, 1967
220 yd.	2:46.90	Catie Ball	USA	London	Sept. 30, 1967

BUTTERFLY

110 yd.	1:06.75	Robin Branaman	Totem Lake S.T.	Seattle	July 29, 1973
220 yd.	2:23.56	Lynn Colella	Totem Lake S.T.	Seattle	July 28, 1973

INDIVIDUAL MEDLEY

220 yd.	2:26.02	Jenni Franks	Mid Atlantic All Stars	Philadelphia	Apr. 21, 1974
440 yd.	5:10.54	Julie Woodcock	Mid Atlantic All Stars	Philadelphia	Apr. 20, 1974

* 55-yard long course records discontinued October, 1974. Last official listing.
† Open water 400 yards straightaway.

FREESTYLE RELAY

440 yd.	4:07.34	Mid Atlantic All Stars (B. Ehring, D. Campbell, M. Hortell, M. Gallagher)	Philadelphia	Apr. 20, 1974
440 yd. (Club)	4:18.70	Arizona Desert Rats Aquatic Club (C. Silva, M. Ramenofsky, K. Moore, C. Clark)	Phoenix	Aug. 3, 1966

MEDLEY RELAY

440 yd.	4:37.40	U.S. National Team (P. Watson, C. Ball, E. Daniel, J. Barkman)	London	Sept. 30, 1967
440 yd. (Club)	4:52.21	Totem Lake S. T. (R. Branaman, B. Kraus, L. Colella, T. Butt)	Seattle	July 28, 1973

AIAW SWIMMING AND DIVING RECORDS*

Short Course (Pools 25 yards, but less than 25 meters)

EVENT	NAME	SCHOOL	TIME	YEAR
200-yd. medley relay	Hines, Buchanan, Yambor, Wrist	Univ. of Miami	1:49.766	1975
400-yd. medley relay	Tullis, Bettencourt, Tosdal, Graham	Arizona State Univ.	3:57.906	1975
200-yd. freestyle	Dawn Frady	Univ. of Miami	1:53.992	1975
100-yd. ind. medley	Cathy Corcione Farley	Princeton Univ.	1:00.64	1974
200-yd. ind. medley	Cathy Corcione Farley	Princeton Univ.	2:10.10	1974
50-yd. backstroke	Linda Stimpson	Univ of Southern Calif.	:26.564	1975
50-yd. breaststroke	J. B. Buchanan	Univ. of Miami	:29.93	1975
50-yd. freestyle	Debbie Renz	Monmouth College	:24.567	1975
50-yd. butterfly	Peggy Tosdal	Arizona State Univ.	:25.636	1975
1-meter diving (12 dives)	Carrie Irish	Ohio State Univ.	434.70	1975
100-yd. butterfly	Peggy Tosdal	Arizona State Univ.	:57.032	1975
100-yd. freestyle	Sally Tuttle	Arizona State Univ.	:52.787	1975
100-yd. backstroke	Linda Stimpson	Univ. of Southern Calif.	:59.343	1975
400-yd. freestyle	Dawn Frady	Univ. of Miami	3:58.245	1975
100-yd. breaststroke	J. B. Buchanan	Univ. of Miami	1:05.894	1975
3-meter diving	Carrie Irish	Ohio State Univ.	442.15	1975
200-yd. freestyle relay	Tuttle, Siefarth, Fredrickson, Tosdal	Arizona State Univ.	1:39.555	1975
400-yd. freestyle relay	Tosdal, Tuttle, Tussli, Graham	Arizona State Univ.	3:35.402	1975

*These records are printed with permission of the Association for Intercollegiate Athletics for Women.

NAGWS COLLEGIATE SWIMMING RECORDS, 1975-1977

Compiled by CLAUDIA FERGUSON,
University of North Carolina, Greensboro

20-yard Course (Pools under 25 yards, but not less than 20 yards)

EVENT	NAME	SCHOOL	TIME	YEAR
20-yd. freestyle	Jean Hitchcock	Skidmore	10.9	1965
40-yd. freestyle	Betty Mullen	Purdue Univ.	21.0	1951
100-yd. freestyle	Claudia Eckert	Northwestern Univ.	1:01.3	1936
200-yd. freestyle	No record – new event			
400-yd. freestyle	No record – new event			
800-yd. freestyle	No record – new event			
20-yd. backstroke	Joyce Prior	Skidmore	13.1	1965
40-yd. backstroke	Kay Manuel	Purdue Univ.	25.2	1951
100-yd. backstroke	Lorna Dooling	Purdue Univ.	1:10.3	1948
200-yd. backstroke	No record – new event			
20-yd. breaststroke	Lydia Manual	Niagara Univ.	12.7	1973
40-yd. breaststroke	Carol Pence	Purdue Univ.	22.5	1951
100-yd. breaststroke	Carol Pence	Purdue Univ.	1:14.4	1948
200-yd. breaststroke	No record – new event			
20-yd. butterfly	Sheila Brophy	Niagara Univ.	11.4	1973
40-yd. butterfly	Kathleen Steinbeck	Linfield	23.8	1966
100-yd. butterfly	No record – new event			
200-yd. butterfly	No record – new event			
80-yd. ind. medley	Lydia Manual	Niagara Univ.	53.6	1973
400-yd. ind. medley	No record – new event			
80-yd. medley relay	MacFarlane, Bradt Shanahan, Stefano	Niagara Univ.	50.8	1973
160-yd. medley relay	Boyle, Whissel, Cannon, Urann	Niagara Univ.	1:49.5	1973
80-yd. freestyle relay	Perryman, Weeks, Ford, Hebdon	Skidmore	41.2	1942
160-yd. freestyle relay	Plaugher, Critzer, Argenzio, Langdale	Madison	1:33.9	1968
800-yd. freestyle relay	No record – new event			
25-yd. freestyle	Patricia Kennedy	State Univ. College Oneonta, NY	12.2	1965
50-yd. freestyle	Sally Tuttle	Ventura College	24.758	1973
100-yd. freestyle	Sally Tuttle	Ventura College	53.704	1973

EVENT	NAME	SCHOOL	TIME	YEAR
200-yd. freestyle	Lynn Colella	Univ. of Washington	1:56.39	1972
400-yd. freestyle	Heidi Lipe	Univ. of Cincinnati	4:09.18	1972
800-yd. freestyle	No record – new event			
25-yd. backstroke	Terry Ogilvie	San Jose State	14.0	1968
50-yd. backstroke	Libby Tullis	Arizona St. Univ.	28.3	1973
100-yd. backstroke	Libby Tullis	Arizona St. Univ.	1:00.539	1973
200-yd. backstroke	No record – new event			
25-yd. breaststroke	Denise Flaherty	Santa Clara Univ.	15.5	1971
50-yd. breaststroke	Cathy Carr	Univ. of New Mexico	31.123	1973
100-yd. breaststroke	Cathy Carr	Univ. of New Mexico	1:06.919	1973
200-yd. breaststroke	No record – new event			
25-yd. butterfly	Nancy Dyer	Wisconsin State Univ.	12.8	1970
50-yd. butterfly	Marcia Middel	Colorado State Univ.	27.1	1970
100-yd. butterfly	Cathy Corcione	Princeton Univ.	58.847	1973
200-yd. butterfly	No record – new event			
100-yd. ind. medley	Cathy Corcione	Princeton Univ.	1:01.1	1974
200-yd. ind. medley	Cathy Carr	Univ. of New Mexico	2:11.056	1973
400-yd. ind. medley	No record – new event			
100-yd. medley relay	Murphy, Rogers, Peterson, Jones	Univ. of Michigan	55.3	1960
200-yd. medley relay	Phflughber, Hudson Siefarth, Morrison	Arizona St. Univ.	1:52.782	1973
400-yd. medley relay	Pasternak, Orr, Stevens, Glassman	Univ of Michigan	4:09.990	1973
100-yd. freestyle relay	Petraites, Rogers, Peterson, Jones	Univ. of Michigan	49.4	1960
200-yd. freestyle relay	Fremon, Franks, Brown, Coricone	Princeton Univ.	1:40.938	1973
400-yd. freestyle relay	Halfacre, K. Thomas B. Thomas, White	Univ. of Florida	3:40.202	1973
800-yd. freestyle relay	No record – new event			

25-meter Course

The following are new events with no records:

25-mtr. freestyle
50-mtr. freestyle
100-mtr. freestyle
200-mtr. freestyle
400-mtr. freestyle
800-mtr. freestyle
25-mtr. backstroke
50-mtr. backstroke
100-mtr. backstroke
200-mtr. backstroke
25-mtr. breaststroke
50-mtr. breaststroke
100-mtr. breaststroke
200-mtr. breaststroke
25-mtr. butterfly
50-mtr. butterfly
100-mtr. butterfly
200-mtr. butterfly
100-mtr. ind. medley
200-mtr. ind. medley
400-mtr. ind. medley
100-mtr. medley relay
200-mtr. medley relay
400-mtr. medley relay
100-mtr. freestyle relay
200-mtr. freestyle relay
400-mtr. freestyle relay
800-mtr. freestyle relay

NAGWS HIGH SCHOOL SWIMMING RECORDS, 1975-1977

compiled by BARBARA FLEMING,
Center High School, Center, North Dakota

20-yard Course (Pools under 25 yards, but not less than 20 yards)

EVENT	NAME	SCHOOL	TIME	YEAR
20-yd freestyle	Debbie Gentile	Western Hills Cincinnati, OH	10.0	1969
40-yd freestyle	Dianna Bulkeley	Penn Hall Prep. Chambersburg, PA	21.7	1970
100-yd freestyle	Jane Montgomery	Asheville Secondary Asheville, NC	1:00.0	1970
200-yd freestyle	Mary Montgomery	Asheville Secondary Asheville, NC	2:04.95	1970
400-yd freestyle	No record – new event			
800-yd freestyle	No record – new event			
20-yd backstroke	Jane Mack	Western Hills Cincinnati, OH	12.3	1968
40-yd backstroke	Lucy Belter	St. Mary's Girls Manhasset, NY	25.9	1969
100-yd backstroke	Therest Nissen	Clinton, H.S. Clinton, IA	1:11.0	1973
200-yd backstroke	No record – new event			
20-yd breaststroke	Marty Fletcher	Western Hills Cincinnati, OH	12.9	1967
40-yd breaststroke	Cindy Holcombe	Asheville Secondary Asheville, NC	27.7	1970
100-yd breaststroke	No record – new event			
200-yd breaststroke	No record – new event			
20-yd butterfly	Alice Jones	Western Hills Cincinnati, OH	10.1	1967
40-yd butterfly	Bargaka Alford	Penn Hall Prep. Chambersburg, PA	24.8	1970
100-yd butterfly	Ann Griffin	Clinton H.S. Clinton, IA	1:07.0	1973
200-yd butterfly	No record – new event			
80-yd ind. medley	Mary Montgomery	Asheville Secondary Asheville, NC	50.9	1970
400-yd ind. medley	No record – new event			
80-yd medley relay	Belter, Veyvada, Brady, McGlynn	St. Mary's Girls Manhasset, NY	46.6	1969

EVENT	NAME	SCHOOL	TIME	YEAR
160-yd medley relay	Nissen, Berger Griffin, Sullivan	Clinton, H.S. Clinton, IA	1:38.9	1973
80-yd freestyle relay	Valentine, Calliman, McGlynn Goettleman	St. Mary's Girls Manhasset, NY	42.5	1969
160-yd freestyle relay	Hartman, Holcombe, J. Montgomery, M. Montgomery	Asheville Secondary Asheville, NC	1:27.1	1970
800-yd freestyle relay	No record – new event			

Short Course (Pools 25 yards, but less than 25 meters)

25-yd freestyle	Kris Klepfer	[illegible]land H.S. San Jose, CA	12.1	1974
50-yd freestyle	Joni Ellis	Golden Valley Golden Valley, MN	25.3	1972
100-yd freestyle	Linda Johnson	Foothill H.S. Santa Ana, CA	55.2	1970
200-yd freestyle	Audrey Supple	Sandia Albuquerque, NM	1:58.9	1972
400-yd freestyle	Audrey Supple	Sandia Albuquerque, NM	4:12.0	1972
800-yd freestyle	No record – new event			
25-yd backstroke	Pam Klotte	Stevenson Livonia, MI	14.4	1968
	Leslie Crozier	Hockaday School Dallas, TX	14.4	1971
50-yd backstroke	Diane Schober	Newtown, Newtown Square, PA	29.1	1970
100-yd backstroke	Tauna Vandeweghe	Palisades Pacific Palisades, CA	1:01.82	1974
200-yd backstroke	Jane Stites	Menlo Atherton Atherton, CA	2:30.3	1973
25-yd breaststroke	Linda Robbins	Homestead, Cupertino, CA	15.2	1971

EVENT	NAME	SCHOOL	TIME	YEAR
50-yd breaststroke	Dana Schoenfield	Loara, Anaheim, CA	32.3	1969
100-yd breaststroke	Britt Marie Smedh	Del Mar H.S. San Jose, CA	1:09.5	1972
200-yd breaststroke	Rosemary Storm	Menlo Atherton Atherton, CA	2:42.4	1973
25-yd butterfly	Alice Jones	Withrow, Cincinnati, OH	13.0	1967
	Joyce Ellis	Palos Verdes, Palos Verdes, CA	13.0	1968
	Nancy McCleary	Bellaire, Houston, TX	13.0	1968
50-yd butterfly	Margaret Welty	Sunny Hills, Fullerton, CA	27.2	1969
100-yd butterfly	Maura Campion	Terra Linda H.S. San Rafael, CA	1:00.4	1973
200-yd butterfly	No record – new event			
100-yd ind. medley	Pam Christensen	Laramie Laramie, WY	1:03.1	1971
200-yd ind. medley	Kathy French	Osseo, Osseo, MN	2:19.6	1972
400-yd ind. medley	No record – new event			
100-yd medley relay	Fenton, Robbins Werth, Berg	Homestead, Cupertino, CA	55.4	1971
200-yd medley relay	Tanner, Storm McFate, Ford	Menlo Atherton H.S. Atherton, CA	1:59.4	1974
400-yd medley relay	No record – new event			
100-yd freestyle relay	Fenton, Parker, Gentes, Berg	Homestead, Cupertino, CA	50.6	1971
200-yd freestyle relay	Shrader, McCuen Bennett, Welty	Sunny Hills, Fullerton, CA	1:44.8	1969
400-yd freestyle relay	McLean, Morter, McDaniel, Schweppe	Bellaire, Houston, TX	3:58.8	1971
800-yd freestyle relay	No record – new event			

25-meter Course

The following events (except the 100-meter freestyle relay) are new with no records.

25-mtr freestyle
50-mtr freestyle
100-mtr freestyle
200-mtr freestyle
400-mtr freestyle
800-mtr freestyle
25-mtr backstroke
50-mtr backstroke
100-mtr backstroke
200-mtr backstroke
25-mtr breaststroke
50-mtr breaststroke
100-mtr breaststroke
200-mtr breaststroke
25-mtr butterfly
50-mtr butterfly
100-mtr butterfly
200-mtr butterfly
100-mtr ind. medley
200-mtr ind. medley
400-mtr ind. medley
100-mtr medley relay
200-mtr medley relay
400-mtr medley relay
200-mtr freestyle relay
400-mtr freestyle relay
800-mtr freestyle relay

100-mtr freestyle relay	Macpherson, Chequer, Nasr Cumberpatch	Jordan Jr. High Palo Alto, CA	50.8	1973

APPLICATION FOR NAGWS SWIMMING RECORD

Mail within two weeks of the meet to:

Nancy O'Connor, Chairperson, NAGWS Swimming and Diving Rules Committee
Colorado State University
Ammona Hall
Fort Collins, CO 80521

Date of Application _____

This application is for a { NAGWS Interscholastics Swimming Record / NAGWS Intercollegiate Swimming Record } swum in a short course pool.

Applicant _____ School or College _____

City and State _____

Event _____ Time achieved _____

Time was recorded by
- completely automatic equipment
- three semi-automatic timing devices
- three stop watches or combination of stop watches and semi-automatic devices

Competition held at (Name of Pool) _____

Address of Pool _____

Actual measurement of pool (feet, inches, and fractions of an inch) _____

Engineer or surveyor's certification is { enclosed / on field with NAGWS Aquatics Guide Committee.

The undersigned officials hereby attest to the record-breaking performance of the applicant and certify that the meet was conducted under the current Official Rules for NAGWS Swimming Meets.

Signatures:

Date of Meet _____

Referee _____ Starter _____

Finish Judge _____ Timer _____ Time _____

Finish Judge _____ Timer _____ Time _____

Timer _____ Time _____

This application must be accompanied by a jeweler's certification of the date these watches were synchronized and an engineer or surveyor's certification of the pool length unless the latter is on file with the NAGWS Aquatics Guide Committee.

1855

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